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E83-10022

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## Inventory Technology Development

7. IT-T2-04323

NASA - CR-167700

A Joint Program for  
Agriculture and  
Resources Inventory  
Surveys Through  
Aerospace  
Remote Sensing

6. JUNE 1982

### MISSING OBSERVATIONS IN MULTIYEAR ROTATION SAMPLING DESIGNS

(E83-10022) MISSING OBSERVATIONS IN  
MULTIYEAR ROTATION SAMPLING DESIGNS (Texas  
A&M Univ.) 125 p HC A06/MF A01 CSC1 02C

N83-12505

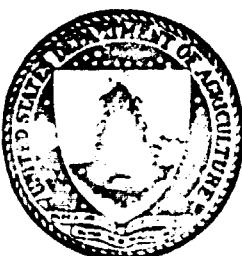
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5. NASA-14689



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**TECHNICAL REPORT 22**

**Missing Observations in Multiyear Rotation Sampling Designs**

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**December 1981**

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## ABSTRACT

Multiyear estimation of at-harvest stratum crop proportions has been shown previously to be more efficient than single year estimation. In this report, the behavior of multiyear estimators in the presence of missing acquisitions is studied. Only the (worst) case when a segment proportion cannot be estimated for the entire year is considered. The effect of these missing segments on the variance of the at-harvest stratum crop proportion estimator is considered when (i) missing segments are not replaced, (ii) missing segments are replaced by segments not sampled in previous years.

The principle recommendations from this study are (1) to replace missing segments according to some specified strategy and (2) to use a sequential procedure for selecting a sampling design ; i.e., choose an optimal two year design and then, based on the observed two year design after segment losses have been taken into account, choose the best possible three year design having the observed two year parent design.

## Missing Observations in Multiyear Rotation Sampling Designs

### 1. Introduction

Previous work (c.f., Technical Reports 18 and 19) has shown that multiyear estimation produces crop proportion estimates which are more efficient than single year estimators. Reductions in the variance of the estimated at-harvest acreage can exceed 30% for two and three year designs. These results, however, are based on the availability of estimated segment proportions for each sampled segment in each "season". Since cloud cover, mechanical malfunctions, registration problems, etc. will in practice make some estimated proportions unavailable in some seasons, it is necessary to determine the effect of missing segment observations on the efficiency of multiyear rotation designs.

Missing acquisitions can lead to one of the following three situations.

(i) Individual acquisitions are missing but a sufficient number are available to produce the required segment proportion estimates for each season. The quality of the estimates may be reduced.

(ii) The pattern of missing acquisitions precludes some but not all season estimates. For example, cloud cover may make an early season estimate impossible but mid and late season estimates can be produced.

(iii) The pattern of missing acquisitions is such that segment proportion estimates are unavailable for the entire year.

From the sampling design standpoint, situation (iii) is the worst possible case and will be the only one dealt with in this report.

The basic analysis of variance mixed model being considered is given matrix form by

$$Y = X \begin{bmatrix} \alpha \\ \delta \end{bmatrix} + JB + Ie,$$

where  $Y$  = vector of transformed segment proportions ,

$\alpha$  = vector of (fixed) year effects ,

$\delta$  = vector of (fixed) systematic season biases ,

$B$  = vector of (random) segment effects ,

$X$  = fixed effects design matrix ,

$U$  = random effects design matrix ,

$e$  = vector of errors.

Since the variance of the transformed proportion is a function of the true segment proportion , a weighted least squares estimation procedure is used. Details concerning this model and the following remarks on parameter estimation can be found in Technical Reports 18 and 20.

Primary interest centers about the estimation of  $\alpha_T$  and  $\text{var}(\hat{\alpha}_T)$  since the estimated at-harvest stratum proportion for the current year  $T$  is given by  $\hat{P}_T = y^{-1}(\hat{\alpha}_T)$ . The variance of  $\hat{\alpha}_T$  , the estimated effect of the current year, is the  $(T,T)^{\text{th}}$  entry in the matrix

$$(X' W' V^{-1} W X)^{-1} \sigma_{\epsilon}^2,$$

where  $W$  = matrix of weights ,

$\epsilon = We$  = vector of transformed errors,

$V = I + \gamma W U U' W'$  ,

$$\gamma = \sigma_b^2 / \sigma_{\epsilon}^2 .$$

The choice of a good design reduces to choosing a design matrix  $U$  which minimizes  $\text{var}(\hat{\alpha}_T)$  .

For the unweighted model where  $W$  is the identity matrix, two and three rotation year designs can be characterized by a sequence of non-negative integers  $\lambda = [\lambda_1, \lambda_2, \dots, \lambda_7]$ , where

- $\lambda_1$  = number of segments used in first year only ,
- $\lambda_2$  = number of segments used in first and second years only ,
- $\lambda_3$  = number of segments used in second year only
- $\lambda_4$  = number of segments used in first and third years only ,
- $\lambda_5$  = number of segments used in all three years ,
- $\lambda_6$  = number of segments used in second and third years only ,
- $\lambda_7$  = number of segments used in third year only.

For two year designs, we can abbreviate  $\lambda$  to  $\lambda^* = [\lambda_1^*, \lambda_2^*, \lambda_3^*]$ .

Numerous examples of rotation designs and their  $\lambda$  - sequences are given in Technical Report 18.

In Sections 2 and 3 we consider the effect of missing segment observations for the entire year. In Sections 4 and 5 we study one of many possible replacement strategies for the missing segments. Section 6 contains recommendations on the choice of a design based on the work in the previous sections.

## 2. Non-Replaced Segment Losses

In our study of the effect of missing segment proportion estimates for the entire year, we shall assume that the initial (complete) design has the same number of segments,  $R$ , in each year. In addition, the weight matrix  $W$  will be the identity matrix. We will consider segment losses only in the last year of the design. Since probabilities are not computed in this part of the study, these segment losses need not be independent. We shall assume that in the last year, lost segments which had not been sampled in any previous year will be replaced by a comparable new segment while

segments which had been sampled in previous years will not be replaced if they are lost. Thus, for two year designs, only  $\lambda_2^*$  -type segments can be missing, while for three year designs,  $\lambda_4$ ,  $\lambda_5$ , and  $\lambda_6$  -type segments can be missing. If all segments in the last year are missing, then  $\text{var}(\hat{\alpha}_T)$  cannot be estimated. Thus, in what follows, we shall always retain at least one segment in the last year.

The effect of segment loss in the current (last) year will be measured by

$$C = C(\gamma, R, \lambda) = \frac{\text{var}(\hat{\alpha}_T)}{\sigma_e^2}.$$

The value of C is the coefficient of  $\sigma_e^2$  in the expression for  $\text{var}(\hat{\alpha}_T)$ . A small value of C indicates a good design.

All two and three year designs for selected numbers of segments per year, R, were enumerated. For each such design, all possible combinations of missing segments were generated and the value of C was computed for selected variance component ratios  $\gamma$ . The values of C are given in Appendices 1 and 2. The scope of each appendix is given in Table 1. The range of  $\gamma$  values includes

Table 1. Scope of Appendices 1 and 2

| Appendix | Number of Years<br>in the Design | R       | $\gamma$              |
|----------|----------------------------------|---------|-----------------------|
| 1        | 2                                | 2,3,4,5 | 0.5,1,2,3,4,10,50,100 |
| 2        | 3                                | 2,3,4   | 0.5,1,2,3,4,10,50,100 |

cases where the variation among segments,  $\sigma_b^2$ , was smaller, equal to and greater than the weighted error variance  $\sigma_e^2$ . In these appendices, the number of segments lost is given rather than the percentage lost. Since we are dealing with very few segments per year, percentages would not be comparable for different values of R and conclusions concerning the effect for a range of percentages would generally be restricted to a single value of R.

### 3. Conclusions for Non-replaced Segment Losses

From the information contained in Appendix 1, the following conclusions were obtained for two year designs.

- (i) For a fixed number of lost segments, as the variance component ratio  $\gamma$  increases, the effect of segment loss as measured by C becomes greater. Thus, as the variability among segments increases, the loss of a segment leads to a more pronounced increase in the estimate of  $\hat{(\alpha_T)}$ .
- (ii) For fixed  $\gamma$ , as the number of segments lost increases, C increases.
- (iii) For a fixed  $\gamma$  and number of segments lost, as the amount of overlap (segments used in both years) in the complete design decreases, the value of C decreases. Thus, designs with a minimal amount of overlap would appear to be less affected by segment loss. However, the loss of only a portion of the overlap segments ( $\lambda_2^*$  - type segments) has a small effect relative to the large effect of losing all overlap segments. This holds even when the number of remaining segments ( $\lambda_3^*$  - type segments) is large. An example of this is shown in Table 2 for  $R = 3$  and selected  $\gamma$ . The table entry is the value of C. The designs are shown in Figures 1 - 3. This latter observation indicates that a design with a large initial overlap would be preferable since there would very likely be overlap segments remaining after missing segments were accounted for. Thus, the choice of a design in the face of segment loss must be a compromise between these two conflicting conclusions. This need to compromise leads us to conclude that good two year designs are ones which contain a modest amount of overlap ( $\lambda_2^*$  - type segments). Such designs were also recommended in Technical Report 18 as being near optimal in terms of efficiency.

Table 2. Values of C for two year designs having R = 3.

| $\lambda^*$ | Number of<br>Missing Segments | $\gamma$ |       |        | 100.0   |
|-------------|-------------------------------|----------|-------|--------|---------|
|             |                               | 0.5      | 1.0   | 10.0   |         |
| 030         | 0                             | 0.389    | 0.556 | 3.556  | 33.556  |
|             | 1                             | 0.500    | 0.675 | 3.687  | 33.689  |
|             | 2                             | 0.800    | 1.000 | 4.048  | 34.055  |
| 121         | 0                             | 0.366    | 0.496 | 2.755  | 25.257  |
|             | 1                             | 0.493    | 0.646 | 2.955  | 25.465  |
|             | 2                             | 1.000    | 1.500 | 10.500 | 100.500 |
| 212         | 0                             | 0.362    | 0.481 | 2.328  | 20.337  |
|             | 1                             | 0.550    | 0.800 | 5.300  | 50.300  |

Figure 1<sup>#</sup>  
Year

| Segment | 1 | 2 |
|---------|---|---|
| 1       | X | * |
| 2       | X | * |
| 3       | X | X |

$$\lambda^* = (0, 3, 0)$$

Figure 2  
Year

| Segment | 1 | 2 |
|---------|---|---|
| 1       | X |   |
| 2       | X | * |
| 3       | X | * |
| 4       | X |   |

$$\lambda^* = (1, 2, 1)$$

Figure 3  
Year

| Segment | 1 | 2 |
|---------|---|---|
| 1       | X |   |
| 2       | X |   |
| 3       | X | * |
| 4       |   | X |
| 5       |   | X |

$$\lambda^* = (2, 1, 2)$$

From the information contained in Appendix 2, the following conclusions were obtained for three year designs.

- (i) For a fixed total number of missing segments, as the variance component ratio  $\gamma$  increases, the effect of segment loss increases; i.e., C increases.
- (ii) For a fixed  $\gamma$ , as the total number of segments lost increases, C increases.

These first two conclusions parallel those for two year designs and deal only with the total number of segments lost. It is important to know what

---

# An X indicates that the segment was observed in that year and a \* indicates overlap segments which can be missing.

effect, if any, the pattern of missing segments has on the estimation of  $\text{var}(\hat{\alpha}_T)$ . To address this question, the following definition is needed.

**Definition:** A rotation design is said to be disconnected if the set of segments in any year consists entirely of segments which are observed in that year only.

This definition is a special case of a more general definition of connectedness in the experimental design literature. As examples, the designs in Figures 4 and 5 are disconnected while the design in Figure 6 is connected ( $R = 3$ ).

In terms of  $\lambda$  - sequences, a rotation design is disconnected if and only if  $\lambda_1 = R$  (equivalently,  $\lambda_2 = \lambda_4 = \lambda_5 = 0$ ) or  $\lambda_3 = R$  (equivalently,  $\lambda_2 = \lambda_5 = \lambda_6 = 0$ ) or  $\lambda_7 = R$  (equivalently,  $\lambda_4 = \lambda_5 = \lambda_6 = 0$ ), where  $R$  is the number of segments observed in the corresponding year. For designs with missing segments, the equivalent characterizations are more useful in conjunction with Appendix 2 for determining disconnectedness since the  $\lambda$  - sequences for designs with missing segments are not explicitly given in their entirety. The necessary portions of the  $\lambda$  - sequence can be constructed by observing that the loss of a  $\lambda_4$  - type segment in the third year increases the number of  $\lambda_1$  - type segments by one. A similar relationship holds between  $\lambda_5$  and  $\lambda_2$  - type segments and between  $\lambda_6$  and  $\lambda_3$  - type segments. For example, for the design  $\lambda = (0, 2, 0, 1, 0, 1, 1)$ , if one  $\lambda_4$  - type segment and one  $\lambda_6$  - type segment are missing, then the resulting design has a  $\lambda$  - sequence  $\lambda = (1, 2, 1, 0, 0, 0, 1)$ , which indicates a disconnected design.

Figure 4

| Year | Segment 1 | 2 | 3 |
|------|-----------|---|---|
| 1    | X         |   |   |
| 2    | X         |   |   |
| 3    | X         |   |   |
| 4    |           | X | X |
| 5    | X         | X |   |
| 6    | X         | X |   |

$$\lambda = (3,0,0,0,0,3,0,)$$

Figure 5

| Year | Segment 1 | 2 | 3 |
|------|-----------|---|---|
| 1    | X         |   | X |
| 2    | X         |   | X |
| 3    | X         |   | X |
| 4    |           | X |   |
| 5    |           | X |   |
| 6    |           | X |   |

$$\lambda = (0,0,3,3,0,0,0)$$

Figure 6

| Year | Segment 1 | 2 | 3 |
|------|-----------|---|---|
| 1    | X         |   |   |
| 2    | X         |   | X |
| 3    | X         |   | X |
| 4    |           |   | X |
| 5    |           |   | X |
| 6    |           |   | X |

$$\lambda = (1,0,2,2,0,1,0)$$

(iii) For a fixed total number of missing segments, the  $\lambda$  - category or categories from which the segments were lost ( $\lambda_4$ ,  $\lambda_5$ , or  $\lambda_6$ ) has very little effect on the value of C unless the lost segments produce a design which is disconnected. If a disconnected design results, it is common for the value of C to be nearly twice as large as the corresponding values of C when the same number of segments are removed without disconnecting the design. This result holds even when the number of remaining segments is large. This conclusion is illustrated in Table 3 for the design shown in Figure 6. The corresponding incomplete rotation designs are shown in Figures 7 - 10 (Note the changes in the  $\lambda$  - sequences.). The lesson to be learned from Table 3 is that the loss of one crucial segment can produce more damage than the loss of several less crucial segments in the current year.

Table 3. An illustration of the effect of disconnectedness on C.

| Figure | Number of Missing Segments | Number Lost in |             |             |       |       |       | γ      | 100.0 |
|--------|----------------------------|----------------|-------------|-------------|-------|-------|-------|--------|-------|
|        |                            | $\lambda_4$    | $\lambda_5$ | $\lambda_6$ | 0.5   | 1.0   | 10.0  |        |       |
| 6      | 0                          | 0              | 0           | 0           | 0.306 | 0.402 | 1.929 | 16.935 |       |
| 7      | 1                          | 0              | 0           | 1           | 0.450 | 0.625 | 3.637 | 33.639 |       |
| 8      | 1                          | 1              | 0           | 0           | 0.400 | 0.500 | 2.024 | 17.027 |       |
| 9      | 2                          | 1              | 0           | 1           | 0.729 | 0.929 | 3.977 | 33.983 |       |
| 10     | 2                          | 2              | 0           | 0           | 0.729 | 0.929 | 3.977 | 33.983 |       |

Figure 7

| Segment | Year |   |   |
|---------|------|---|---|
|         | 1    | 2 | 3 |
| 1       | X    |   |   |
| 2       | X    |   | X |
| 3       | X    | X |   |
| 4       |      | X |   |
| 5       | X    |   |   |
| 6       | X    |   |   |

$$\lambda = (1, 0, 3, 2, 0, 0, 0)$$

Figure 8

| Segment | Year |   |   |
|---------|------|---|---|
|         | 1    | 2 | 3 |
| 1       |      | X |   |
| 2       |      | X |   |
| 3       |      | X | X |
| 4       |      |   | X |
| 5       |      |   | X |
| 6       |      | X | X |

$$\lambda = (2, 0, 2, 1, 0, 1, 0)$$

Figure 9

| Segment | Year |   |   |
|---------|------|---|---|
|         | 1    | 2 | 3 |
| 1       | X    |   |   |
| 2       | X    |   |   |
| 3       | X    | X |   |
| 4       |      | X |   |
| 5       | X    |   |   |
| 6       | X    |   |   |

$$\lambda = (2, 0, 3, 1, 0, 0, 0)$$

Figure 10

| Segment | Year |   |   |
|---------|------|---|---|
|         | 1    | 2 | 3 |
| 1       |      | X |   |
| 2       |      | X |   |
| 3       |      | X | X |
| 4       |      |   | X |
| 5       |      |   | X |
| 6       |      | X | X |

$$\lambda = (3, 0, 2, 0, 0, 1, 0)$$

(iv) For a given number of segments per year R, each two year parent produces designs which are reasonably robust to segment loss provided that the missing segments do not produce a disconnected design.

(v) In light of the difficulties which result from a disconnected design, a good choice of a complete design would be one in which there is sufficient overlap so that the chance of having a disconnected design after lost segments have been accounted for is small. This recommendation is compatible with the choice of optimal or near optimal designs as determined by the efficiency considerations in Technical Report 18.

#### 4. Replacement Strategies

There are many possible replacement strategies for missing segments which could be implemented. Several are outlined and discussed below for the case when segments are missing for the entire year.

(I) Replace any missing segment in the current year by a segment which has not been sampled in previous years; i.e., by a  $\lambda_3^*$  - type segment for two year designs and a  $\lambda_7$  - type segment for three year designs.

(II) If possible, replace a missing segment by a segment which would not change the  $\lambda$  sequence of the design. If this is impossible, then replace it by a  $\lambda_3^*$  or  $\lambda_7$  -type segment. For example, in the design shown in Figure 11, either segment 1 or segment 2 can be used in the third year as the  $\lambda_4$  - type segment. Hence, if segment 2 is requested in the third year but proportion estimates cannot be made, then it would be replaced by segment 1. In contrast, the loss of segment 4 or 5 in the third year would necessitate the introduction of a new sixth segment into the design.

Figure 11

| Segment | Year |   |   |
|---------|------|---|---|
|         | 1    | 2 | 3 |
| 1       |      | X |   |
| 2       | X    |   | X |
| 3       | X    | X |   |
| 4       |      | X | X |
| 5       | X    | X |   |

$$\lambda = (1,1,0,1,0,2,0)$$

(III) Modify strategy II to allow for the replacement of a missing segment in the current year by any previously sampled segment which is not already allocated to the current year. If sufficient segments were not available as replacements, then  $\lambda_7$  - type segments would be added. For this strategy, in the design in Figure 11, segments 1 and 3 could be used as replacements for

any of segments 2, 4, or 5 which were missing in the third year. A new segment would need to be added only if all three third year segments were missing.

The advantage of strategies such as II and III is that the modified designs are less likely to be disconnected than are those resulting from strategy I. It is clear from previous work that within strategy III, the use of some segments as replacements would result in better designs than for other available segments. The determination of the actual optimal replacement segment would be extremely complicated and would be best dealt with on a case by case basis when the need arises. The difficulty here is that the modified design can be any of the possible designs which arise from the parent design. In contrast, strategy I has the advantage of being simple to implement.

The preceding remarks deal exclusively with unweighted estimation where all segments within a  $\lambda$  - category are interchangeable. For weighted estimation, the loss of different segments within the same  $\lambda$  - category will have differing effects on the estimation of  $\hat{\text{var}}(\alpha_T)$  and so cannot be treated as interchangeable. This further complicates strategies II and III and, in fact, the optimal segment replacement could only be determined by using knowledge of the particular segments sampled in previous years. For these reasons, we shall only discuss replacement strategy I.

In what follows, we shall be dealing with unweighted estimation only and segment loss will occur only in the last year of the design. We shall assume that segment losses are independent (in contrast to Section 2) and that the probability of loss for each segment is the same. Under these assumptions, the number of segments  $X_1$ , missing of type  $\lambda_1$  has a binomial distribution.

For three year designs, the joint distribution of  $(X_4, X_5, X_6)$  is the product of three independent binomial distributions each having the same probability of "success".

Comparisons of designs under this replacement strategy will be affected by computing

$$\bar{C} = \bar{C}(p, \gamma) = \sum_v f_v C_v ,$$

where

$f_v = f_v(p) =$  probability that the  $v^{\text{th}}$  replacement design will be used,

$p =$  probability that any one particular segment will be lost,

$C_v = C_v(\gamma) =$  value of  $C$  for the  $v^{\text{th}}$  replacement design for a given value of  $\gamma$  ,

and where the sum is taken over all possible replacement designs for the design under study. The design which results from applying the replacement strategy to the original design after the missing segments have been determined is referred to as the replacement design.

Thus, we are comparing weighted averages of possible  $C$ -values. Small values of  $\bar{C}$  indicate designs for which  $\text{var}(\hat{a}_T)$  will, on the average, be relatively small.

Values of  $\bar{C}$  were computed for all two and three year designs with the values of  $R$  and  $\gamma$  indicated in Table 1 and the probability  $p$  of segment loss being 0.1, 0.2, ..., 0.9. Appendix 3 contains the  $\bar{C}$  values for two year designs while the corresponding information for three year designs is in Appendix 4. Three year disconnected designs in which  $\lambda_7 = R$  and two year disconnected designs were not considered since for these designs  $\bar{C}$  is independent of  $p$ . This follows from the fact that the only replacement design is the design itself.

### 5. Conclusions for Replacement Strategy I.

From the information contained in Appendix 3 the following conclusions were obtained concerning the behavior of two year designs under replacement strategy I .

(i) For a fixed probability of segment loss,  $p$ , as the variance component ratio  $\gamma$  increases,  $\bar{C}$  increases.

(ii) For a fixed number of segments per year,  $R$ , and a fixed  $\gamma$ , as  $p$  increases the number of segments sampled in both years ( $\lambda_2^*$  - type segments) for the best design (minimum  $\bar{C}$  ) increases. This is consistent with previous results since, for a fixed design, increasing  $p$  will increase the probability that the replacement design will be disconnected , thereby contributing a large  $C$  - value with large probability to the calculation of  $\bar{C}$  .

Hence, for large segment loss probabilities  $p$ , a good design will have a large number of segments sampled in both years while for small  $p$  , a good design will have a minimal amount of overlap. As a result, the choice of an optimal or near optimal design under this replacement strategy requires some knowledge of the probability of segment loss. Near optimality may be obtained without precise knowledge of  $p$ .

(iii) As  $R$  increases,  $\bar{C}$  decreases for a fixed  $p$  and  $\gamma$ . Thus, an increase in the number of segments per year will, on the average, reduce  $\text{var}(\hat{\alpha}_T)$ .

(iv) For a given design and value of  $\gamma$ ,  $\bar{C}$  is a polynomial in  $p$  of degree  $\lambda_2^*$  where the coefficients are functions of the  $C$  - values of the possible replacement designs. This follows from the fact that  $\bar{C}$  is a weighted average of  $C$  values where the weights are binomial probabilities in terms of  $p$ . These polynomials are not in general monotonic. For a

given  $\gamma$ , the value of  $\bar{C}$  may be large for values of  $p$  close to 0 and 1 but smaller for intermediate values of  $p$ . Such an example is given in Table 4 which contains the values of  $\bar{C}$  for the design  $\lambda^* = (2, 3, 2)$ . For this design,  $\bar{C}$  is a cubic polynomial in  $p$ .

Table 4. Values of  $\bar{C}$  for the design  $\lambda^* = (2, 3, 2)$ .

| $p$ | 0.5                 | 1.0                 | $\gamma$ | 10.0               | 100.0               |
|-----|---------------------|---------------------|----------|--------------------|---------------------|
| 0.1 | 0.218 <sup>**</sup> | 0.293 <sup>**</sup> |          | 1.544              | 13.941              |
| 0.2 | 0.218 <sup>*</sup>  | 0.292 <sup>*</sup>  |          | 1.510              | 13.521              |
| 0.3 | 0.218 <sup>**</sup> | 0.293 <sup>*</sup>  |          | 1.491 <sup>*</sup> | 13.243 <sup>*</sup> |
| 0.4 | 0.219               | 0.294               |          | 1.490 <sup>*</sup> | 13.166 <sup>*</sup> |
| 0.5 | 0.221               | 0.297               |          | 1.512              | 13.346              |
| 0.6 | 0.222               | 0.302               |          | 1.563              | 13.842              |
| 0.7 | 0.224               | 0.307               |          | 1.645              | 14.711              |
| 0.8 | 0.227               | 0.314               |          | 1.765              | 16.011              |
| 0.9 | 0.230               | 0.323               |          | 1.926              | 17.799              |

\* values of  $p$  and  $\gamma$  for which this design is optimal

\*\* other designs are also optimal for this combination of  $p$  and  $\gamma$

An intuitive interpretation of the behavior of  $\bar{C}$  in Table 4 is difficult at best. However, some light can be shed on its behavior by studying the  $C$  - values for possible replacement designs since the coefficients in the polynomial expression for  $\bar{C}$  are functions of these  $C$  - values. The  $C$  - values corresponding to the  $\gamma$  - values in Table 4 are given in Table 5.

Table 5. Values of  $C$  for possible replacement designs

associated with the design  $\lambda^* = (2, 3, 2)$ .

| $\lambda^*$ of Replacement Design | 0.5   | 1.0   | $\gamma$ | 10.0  | 100.0  |
|-----------------------------------|-------|-------|----------|-------|--------|
| 2 3 2                             | 0.218 | 0.294 |          | 1.587 | 14.445 |
| 3 2 3                             | 0.217 | 0.288 |          | 1.433 | 12.686 |
| 4 1 4                             | 0.221 | 0.296 |          | 1.360 | 11.377 |
| 5 0 5                             | 0.233 | 0.333 |          | 2.133 | 20.133 |

For a given  $\gamma$ ,  $\bar{C}$  is a weighted average of these  $C$  - values. As  $p$  increases, the probability that the replacement design will be the disconnected design  $\lambda^* = (5, 0, 5)$  increases. Thus  $\bar{C}$  will increase. For intermediate values of  $p$ , more weight is placed on replacement designs with smaller  $C$  - values, thereby reducing  $\bar{C}$ .

The conclusion which can be drawn here reinforces that in (ii), viz., when the between segment variation is large (large  $\gamma$ ), some knowledge of the probability of segment loss,  $p$ , is essential in determining a design which can be expected to perform well under this replacement strategy.

A list of optimal or near optimal two year designs under this replacement strategy is given in Table 6. A striking feature of this list is that every design which is not disconnected appears in it for some configuration of values of  $p$  and  $\gamma$ , again emphasizing the need for some knowledge of these parameters.

An indication of the range of values of  $\bar{C}$  for the optimal and near optimal designs in Table 6 for selected values of  $p$  and  $\gamma$  is given in Table 7. The format of this table has been rearranged so that the effect of changing  $R$ , the number of segments per year, is easily seen. It is important to realize that the design for each entry varies. Thus, for a given  $R$ , no single design can achieve the indicated values of  $\bar{C}$  for all  $p$  and  $\gamma$ .

From the information in Appendix 4, the following conclusions were obtained concerning the behavior of three year designs under replacement strategy I.

(i) For a fixed probability of segment loss  $p$ , the values of  $\bar{C}$  increase as the variance component ratio  $\gamma$  increases.

(ii) For a fixed  $\gamma$ ,  $\bar{C}$  is a polynomial in  $p$  of degree  $\lambda_4 + \lambda_5 + \lambda_6$  where the coefficients are functions of the  $C$  - values of the possible replacement designs. As a result, the behavior of  $\bar{C}$  for three year designs is similar to that described previously for two year designs.

Table 6. Optimal and near optimal two year designs.

| R | $\lambda^*$ | Range of parameters where<br>design is optimal |              |
|---|-------------|--|--------------|
|   |             | P  | $\gamma$     |
| 2 | 0 2 0       | 0.5 - 0.9                                      | all          |
|   | 1 1 1       | 0.1 - 0.5                                      | all          |
| 3 | 0 3 0       | 0.6 - 0.9                                      | all          |
|   | 1 2 1       | 0.3 - 0.5                                      | all          |
|   |             | 0.1 - 0.2                                      | 0.5          |
|   | 2 1 2       | 0.1 - 0.2                                      | 1.0 - 100.0  |
| 4 | 0 4 0       | 0.6 - 0.9                                      | all          |
|   | 1 3 1       | 0.5  | all          |
|   | 2 2 2       | 0.2 - 0.4                                      | all          |
|   |             | 0.1  | 0.5 - 3.0    |
|   | 3 1 3       | 0.1  | 4.0 100.0    |
| 5 | 0 5 0       | 0.7 - 0.9                                      | all          |
|   |             | 0.6  | 0.5 - 3.0    |
|   | 1 4 1       | 0.5  | 0.5 - 3.0    |
|   |             | 0.6  | 4.0 - 100.0  |
|   | 3 2 3       | 0.1  | 0.5 - 10.0   |
|   |             | 0.2 - 0.3                                      | all          |
|   | 4 1 4       | 0.1  | 50.0 - 100.0 |

Table 7. Minimum values of  $\bar{C}$  for two year designs.

| <u>p</u>                           | <u>2</u> | <u>3</u> | <u>4</u> | <u>5</u> |
|------------------------------------|----------|----------|----------|----------|
| <u><math>\gamma = 0.5</math></u>   |          |          |          |          |
| 0.1                                | 0.546    | 0.366    | 0.272    | 0.220    |
| 0.3                                | 0.554    | 0.366    | 0.276    | 0.220    |
| 0.6                                | 0.564    | 0.372    | 0.276    | 0.220    |
| 0.9                                | 0.576    | 0.381    | 0.284    | 0.230    |
| <u><math>\gamma = 1.0</math></u>   |          |          |          |          |
| 0.1                                | 0.736    | 0.489    | 0.364    | 0.290    |
| 0.3                                | 0.756    | 0.741    | 0.368    | 0.295    |
| 0.6                                | 0.780    | 0.768    | 0.376    | 0.295    |
| 0.9                                | 0.814    | 1.140    | 0.400    | 0.315    |
| <u><math>\gamma = 10.0</math></u>  |          |          |          |          |
| 0.1                                | 3.912    | 2.451    | 1.804    | 1.425    |
| 0.3                                | 4.228    | 2.649    | 1.876    | 1.465    |
| 0.6                                | 4.576    | 2.796    | 1.952    | 1.530    |
| 0.9                                | 5.050    | 3.237    | 2.348    | 1.825    |
| <u><math>\gamma = 100.0</math></u> |          |          |          |          |
| 0.1                                | 35.416   | 21.660   | 15.636   | 12.255   |
| 0.3                                | 38.732   | 23.937   | 16.660   | 12.805   |
| 0.6                                | 42.378   | 25.455   | 17.880   | 13.575   |
| 0.9                                | 47.350   | 30.120   | 21.660   | 16.670   |

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(iii) As the number of segments sampled per year increases,  $\bar{C}$  generally decreases for a fixed  $p$  and  $\gamma$ . A few exceptional cases can be found. Thus it is advantageous to increase the number of segments sampled per year.

(iv) For a given two year parent design, as the probability of segment loss  $p$  increases, the minimum values of  $\bar{C}$  occur for designs with a decreasing number of new segments in the third year ( $\lambda_7$  - type segments); i.e., an increasing number of segments sampled in previous years should be resampled in the third year. For a fixed value of  $\lambda_7$  within a parent, designs having more segments sampled in all three years ( $\lambda_5$  - type segments) have smaller values of  $\bar{C}$ .

(v) For a fixed  $R$ , each two year parent design will produce a three year design with reasonable (but not necessarily near optimal) values of  $\bar{C}$ . The best three year designs result from two year parents with a minimal amount of overlap ( $\lambda_2^*$  - type segments), which are not near optimal two year designs.

A list of optimal or near optimal three year designs is given in Table 8 for replacement strategy I. The final choice of a three year design from among those in Table 8 must take into account the performance of the two year parent design since at-harvest estimates will be required during each of the three years that the design is in use. Thus, disconnected two year parents should not be used even if they yield the smallest  $\bar{C}$  - value for a particular combination of  $p$  and  $\gamma$  in the third year. For example, in Table 8 for  $R = 2$ , the design  $\lambda = (1, 0, 1, 1, 0, 1, 0)$  actually has smaller values of  $\bar{C}$  for  $p \leq .3$  than does  $\lambda = (1, 0, 1, 0, 1, 0, 1)$ , but the difference is relatively small. Since the former design has a disconnected two year parent, the latter would be preferred in most cases.

In general, the value of  $\gamma$  does not seriously affect the optimality or near optimality of a particular design in Table 8.

Table 8. Optimal and near optimal three year designs.

| R | $\lambda$ | $\lambda^*$ | Range of p |
|---|-----------|-------------|------------|
| 2 | 0011100   | 111         | 0.4 - 0.9  |
|   | 1000110   | 111         | 0.4 - 0.9  |
|   | 1011010   | 202#        | 0.1 - 0.3  |
|   | 1010101   | 111         | 0.1 - 0.3  |
| 3 | 1011110   | 212         | 0.4 - 0.9  |
|   | 1021101   | 212         | 0.1 - 0.3  |
|   | 2010111   | 212         | 0.1 - 0.3  |
|   | 2021011   | 303#        | 0.1        |
| 4 | 1122011   | 313         | 0.3 - 0.9  |
|   | 2111021   | 313         | 0.3 - 0.9  |
|   | 2022020   | 404#        | 0.2 - 0.9  |
|   | 3020112   | 313         | 0.1 - 0.2  |
|   | 3031012   | 404#        | 0.1        |

# indicates disconnected two year parent.

An indication of the amount by which the value of  $\bar{C}$  varies for these near optimal designs in Table 8 for selected  $\gamma$  and  $p$  is shown in Table 9. As in Table 7, the format has been rearranged so that the effect of changing  $R$ , the number of segments sampled per year, is easily seen. It is important to realize that the designs which produce these values of  $\bar{C}$  vary with  $p$  and  $\gamma$ .

Table 9. Minimum values of  $\bar{C}$  for three year designs.

| p                                  | R      |        |        |
|------------------------------------|--------|--------|--------|
|                                    | 2      | 3      | 4      |
| <u><math>\gamma = 0.5</math></u>   |        |        |        |
| 0.1                                | 0.468  | 0.309  | 0.228  |
| 0.3                                | 0.480  | 0.312  | 0.232  |
| 0.6                                | 0.494  | 0.324  | 0.240  |
| 0.9                                | 0.517  | 0.342  | 0.256  |
| <u><math>\gamma = 1.0</math></u>   |        |        |        |
| 0.1                                | 0.606  | 0.402  | 0.296  |
| 0.3                                | 0.640  | 0.417  | 0.304  |
| 0.6                                | 0.687  | 0.441  | 0.328  |
| 0.9                                | 0.749  | 0.492  | 0.368  |
| <u><math>\gamma = 10.0</math></u>  |        |        |        |
| 0.1                                | 3.034  | 1.832  | 1.332  |
| 0.3                                | 3.429  | 2.025  | 1.420  |
| 0.6                                | 3.906  | 2.247  | 1.656  |
| 0.9                                | 4.843  | 3.063  | 2.296  |
| <u><math>\gamma = 100.0</math></u> |        |        |        |
| 0.1                                | 27.112 | 15.792 | 11.172 |
| 0.3                                | 31.107 | 17.490 | 12.024 |
| 0.6                                | 35.714 | 19.770 | 14.032 |
| 0.9                                | 45.645 | 28.488 | 21.184 |

## 6. Recommendations

In this report we have studied, in effect, two strategies for dealing with segment loss: no replacement and replacement by new segments. The principal recommendation is that some replacement strategy should be used. The non-replacement of lost segments, for whatever reason, can be disastrous in many cases.

If the situation should arise where lost segments cannot be replaced, the following guidelines should be used in choosing a design.

(i) A two year design having a "moderate" number of segments sampled in both years should be chosen. "Moderate" must be interpreted in light of the likelihood that a segment will be lost. As this likelihood increases, the number of segments sampled in both years should increase. A design with complete rotation of segments should never be used. In extreme situations where large numbers of lost segments are almost certain, a no rotation design (the same segments sampled in both years) would be recommended. This should not be construed as a blanket recommendation for the no rotation design since it performs poorly from an efficiency viewpoint.

(ii) A three year design should be chosen which has a "large" proportion of the segments sampled in more than one year. The two year parent of the chosen design should follow recommendation (i). As in (i), the interpretation of "large" must be made in light of the likelihood of segment loss. Also as in (i), the no rotation design should be used only in extreme cases. It is generally not recommended.

The thrust of the above recommendations is to choose designs which avoid disconnectedness as well as . possible subject to non-design considerations. The effect of estimating at-harvest stratum proportions from a disconnected design was illustrated in Table 3 but cases where the effect is much more dramatic can be found in Appendices 1 and 2.

The replacement strategy studied in Sections 4 and 5 is one of many which could be implemented. It was initially chosen for its simplicity. However, among the strategies mentioned in Section 4, it has the greatest tendency to produce a disconnected replacement design. In this sense, it represents a worst possible strategy; that is, the effect of segment loss should be more pronounced under strategy I than under strategies II and III.

The key to the following recommendations for design selection under strategy I is a preliminary knowledge of the probability of segment loss  $p$  and the variance component ratio  $\gamma$ . For near optimality, this knowledge need not be precise; a reasonably narrow range of possible parameter values will suffice.

(i) For two year designs the optimal or near optimal designs are given in Table 6. Although for some values of  $p$  and  $\gamma$  two year no-rotation designs are listed, if the design is to be extended beyond two years the fact that these designs produce offspring which, as a group, are not near-optimal must be considered.

(ii) For three year designs, the optimal or near optimal designs are given in Table 8. The selection of a design from this table must be tempered by the fact that the design must be used to produce at-harvest stratum proportion estimates at the end of each year. Thus, three year designs generated from a two year parent having no overlapping segments are not recommended when other designs are available.

It was noted in Section 5 that each two year parent produces several reasonable but not necessarily optimal three year designs. In view of this fact and the somewhat contradictory results in Tables 6 and 8, the following sequential procedure is recommended for choosing designs under replacement strategy I.

(iii) Choose an optimal two year design based on Table 6 and knowledge of the values of  $p$  and  $\gamma$ . At the end of the second year, use Appendix 4 to find an optimal or near optimal three year design for the two year parent design which has been observed. Because of segment loss, this observed parent may well differ from the design originally selected.

Although the three year design resulting from recommendation (iii) probably will not be among the optimal designs listed in Table 8, it should perform reasonably well for both the second and third years. The recommendation in (iii) is based on a preference for two reasonable estimates rather than a combination of one near optimal and one possibly poor estimate.

Appendix 1: Values of C for Two Year

Designs, R = 2, 3, 4, 5

The table entry is the value of

$$C = \frac{\text{var}(\hat{\alpha}_p)}{\sigma_e^2}$$

for the indicated value of  $\gamma$  and the indicated number of missing  $\lambda_2^*$  - type segments from the original design with the given  $\lambda^*$  - sequence (c.f., Section 2). The  $\lambda^*$  - sequence of the design with missing segments can be reconstructed from the  $\lambda^*$  - sequence of the original design by subtracting the number of missing segments from  $\lambda_2^*$  and adding it to  $\lambda_1^*$ . For example, if the original design were  $\lambda^* = (1, 3, 1)$  and two segments were missing, the resulting design would be given by  $\lambda^* = (3, 1, 1)$ .

R = 2

| LAMBDA STAR : |       | 0     | 2     | 0     |       |        |        |         |
|---------------|-------|-------|-------|-------|-------|--------|--------|---------|
| NO.MISSING    |       | 0.50  | 1.00  | 2.00  | 3.00  | GAMMA  | 4.00   | 10.00   |
| 0             | 0.583 | 0.833 | 1.333 | 1.833 | 2.333 | 5.333  | 25.333 | 50.333  |
| 1             | 0.906 | 1.181 | 1.698 | 2.206 | 2.709 | 5.717  | 25.721 | 50.722  |
| LAMBDA STAR : |       | 1     | 1     | 1     |       |        |        |         |
| NO.MISSING    |       | 0.50  | 1.00  | 2.00  | 3.00  | GAMMA  | 4.00   | 10.00   |
| 0             | 0.542 | 0.724 | 1.071 | 1.410 | 1.747 | 3.754  | 17.091 | 33.759  |
| 1             | 1.056 | 1.556 | 2.556 | 3.556 | 4.556 | 10.556 | 50.556 | 100.556 |

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R = 3

LAMBDA STAR : 0 3 0

| NO.MISSING | 0.50  | 1.00  | 2.00  | 3.00  | GAMMA 4.00 | 10.00 | 50.00  | 100.00 |
|------------|-------|-------|-------|-------|------------|-------|--------|--------|
| 0          | 0.389 | 0.556 | 0.889 | 1.222 | 1.556      | 3.556 | 16.889 | 33.556 |
| 1          | 0.500 | 0.675 | 1.014 | 1.350 | 1.685      | 3.687 | 17.022 | 33.689 |
| 2          | 0.800 | 1.000 | 1.357 | 1.700 | 2.038      | 4.048 | 17.387 | 34.055 |

LAMBDA STAR : 1 2 1

| NO.MISSING | 0.50  | 1.00  | 2.00  | 3.00  | GAMMA 4.00 | 10.00  | 50.00  | 100.00  |
|------------|-------|-------|-------|-------|------------|--------|--------|---------|
| 0          | 0.366 | 0.496 | 0.751 | 1.002 | 1.253      | 2.755  | 12.757 | 25.257  |
| 1          | 0.493 | 0.646 | 0.922 | 1.184 | 1.440      | 2.955  | 12.964 | 25.465  |
| 2          | 1.000 | 1.500 | 2.500 | 3.500 | 4.500      | 10.500 | 50.500 | 100.500 |

LAMBDA STAR : 2 1 2

| NO.MISSING | 0.50  | 1.00  | 2.00  | 3.00  | GAMMA 4.00 | 10.00 | 50.00  | 100.00 |
|------------|-------|-------|-------|-------|------------|-------|--------|--------|
| 0          | 0.362 | 0.481 | 0.700 | 0.910 | 1.115      | 2.328 | 10.336 | 20.337 |
| 1          | 0.550 | 0.800 | 1.300 | 1.800 | 2.300      | 5.300 | 25.300 | 50.300 |

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R = 4

| LAMBDA STAR : 0 4 0 |       |       |       | GAMMA |       |        |        |
|---------------------|-------|-------|-------|-------|-------|--------|--------|
| NO.MISSING          | 0.50  | 1.00  | 2.00  | 3.00  | 4.00  | 10.00  | 50.00  |
| 0                   | 0.292 | 0.417 | 0.667 | 0.917 | 1.167 | 2.667  | 12.667 |
| 1                   | 0.348 | 0.477 | 0.730 | 0.981 | 1.232 | 2.733  | 12.734 |
| 2                   | 0.453 | 0.590 | 0.349 | 1.103 | 1.355 | 2.858  | 12.861 |
| 3                   | 0.742 | 0.904 | 1.181 | 1.442 | 1.697 | 3.209  | 13.215 |
| LAMBDA STAR : 1 3 1 |       |       |       | GAMMA |       |        |        |
| NO.MISSING          | 0.50  | 1.00  | 2.00  | 3.00  | 4.00  | 10.00  | 50.00  |
| 0                   | 0.277 | 0.380 | 0.582 | 0.783 | 0.984 | 2.185  | 10.185 |
| 1                   | 0.338 | 0.448 | 0.656 | 0.860 | 1.062 | 2.266  | 10.268 |
| 2                   | 0.463 | 0.600 | 0.834 | 1.051 | 1.260 | 2.481  | 10.494 |
| 3                   | 0.967 | 1.467 | 2.467 | 3.467 | 4.467 | 10.467 | 50.467 |
| LAMBDA STAR : 2 2 2 |       |       |       | GAMMA |       |        |        |
| NO.MISSING          | 0.50  | 1.00  | 2.00  | 3.00  | 4.00  | 10.00  | 50.00  |
| 0                   | 0.271 | 0.362 | 0.535 | 0.705 | 0.873 | 1.877  | 8.546  |
| 1                   | 0.343 | 0.453 | 0.647 | 0.828 | 1.004 | 2.023  | 8.703  |
| 2                   | 0.528 | 0.778 | 1.278 | 1.778 | 2.278 | 5.278  | 25.278 |
| LAMBDA STAR : 3 1 3 |       |       |       | GAMMA |       |        |        |
| NO.MISSING          | 0.50  | 1.00  | 2.00  | 3.00  | 4.00  | 10.00  | 50.00  |
| 0                   | 0.274 | 0.365 | 0.530 | 0.684 | 0.834 | 1.708  | 7.434  |
| 1                   | 0.373 | 0.540 | 0.873 | 1.206 | 1.540 | 3.540  | 16.873 |

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R = 5

| LAMBDA STAR : |       | 0     | 5     | 0     | GAMMA 4.00 |       | 10.00  | 50.00  | 100.00 |
|---------------|-------|-------|-------|-------|------------|-------|--------|--------|--------|
| NO.MISSING    | 0.50  | 1.00  | 2.00  | 3.00  | GAMMA 4.00 | 10.00 | 50.00  | 100.00 |        |
| 0             | 0.233 | 0.333 | 0.533 | 0.733 | 0.933      | 2.133 | 10.133 | 20.133 |        |
| 1             | 0.267 | 0.370 | 0.572 | 0.772 | 0.973      | 2.174 | 10.174 | 20.174 |        |
| 2             | 0.321 | 0.428 | 0.633 | 0.834 | 1.035      | 2.237 | 10.239 | 20.239 |        |
| 3             | 0.422 | 0.537 | 0.748 | 0.952 | 1.154      | 2.359 | 10.361 | 20.362 |        |
| 4             | 0.704 | 0.844 | 1.073 | 1.284 | 1.491      | 2.703 | 10.709 | 20.710 |        |

| LAMBDA STAR : |       | 1     | 4     | 1     | GAMMA 4.00 |        | 10.00  | 50.00   | 100.00 |
|---------------|-------|-------|-------|-------|------------|--------|--------|---------|--------|
| NO.MISSING    | 0.50  | 1.00  | 2.00  | 3.00  | GAMMA 4.00 | 10.00  | 50.00  | 100.00  |        |
| 0             | 0.224 | 0.309 | 0.477 | 0.644 | 0.811      | 1.812  | 8.479  | 16.812  |        |
| 1             | 0.259 | 0.348 | 0.519 | 0.687 | 0.855      | 1.857  | 8.524  | 16.858  |        |
| 2             | 0.318 | 0.415 | 0.593 | 0.765 | 0.934      | 1.940  | 8.610  | 16.944  |        |
| 3             | 0.442 | 0.568 | 0.776 | 0.963 | 1.142      | 2.167  | 8.850  | 17.186  |        |
| 4             | 0.944 | 1.444 | 2.444 | 3.444 | 4.444      | 10.444 | 50.444 | 100.444 |        |

| LAMBDA STAR : |       | 2     | 3     | 2     | GAMMA 4.00 |       | 10.00  | 50.00  | 100.00 |
|---------------|-------|-------|-------|-------|------------|-------|--------|--------|--------|
| NO.MISSING    | 0.50  | 1.00  | 2.00  | 3.00  | GAMMA 4.00 | 10.00 | 50.00  | 100.00 |        |
| 0             | 0.218 | 0.294 | 0.440 | 0.584 | 0.728      | 1.567 | 7.302  | 14.445 |        |
| 1             | 0.257 | 0.340 | 0.492 | 0.640 | 0.785      | 1.648 | 7.366  | 14.509 |        |
| 2             | 0.328 | 0.433 | 0.611 | 0.772 | 0.926      | 1.809 | 7.541  | 14.686 |        |
| 3             | 0.512 | 0.762 | 1.262 | 1.762 | 2.262      | 5.262 | 25.262 | 50.262 |        |

| LAMBDA STAR : |       | 3     | 2     | 3     | GAMMA 4.00 |       | 10.00  | 50.00  | 100.00 |
|---------------|-------|-------|-------|-------|------------|-------|--------|--------|--------|
| NO.MISSING    | 0.50  | 1.00  | 2.00  | 3.00  | GAMMA 4.00 | 10.00 | 50.00  | 100.00 |        |
| 0             | 0.217 | 0.288 | 0.421 | 0.550 | 0.678      | 1.433 | 6.436  | 12.686 |        |
| 1             | 0.263 | 0.351 | 0.504 | 0.645 | 0.780      | 1.553 | 6.569  | 12.822 |        |
| 2             | 0.361 | 0.528 | 0.861 | 1.194 | 1.528      | 3.528 | 16.861 | 33.528 |        |

| LAMBDA STAR : |       | 4     | 1     | 4     | GAMMA 4.00 |       | 10.00  | 50.00  | 100.00 |
|---------------|-------|-------|-------|-------|------------|-------|--------|--------|--------|
| NO.MISSING    | 0.50  | 1.00  | 2.00  | 3.00  | GAMMA 4.00 | 10.00 | 50.00  | 100.00 |        |
| 0             | 0.221 | 0.296 | 0.430 | 0.554 | 0.673      | 1.360 | 5.820  | 11.377 |        |
| 1             | 0.282 | 0.407 | 0.657 | 0.907 | 1.157      | 2.657 | 12.657 | 25.157 |        |

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Appendix 2: Values of C for Three Year  
Designs, R = 2, 3, 4.

The table entry is the value of

$$C = \frac{\hat{\text{var}}(\alpha_T)}{\sigma_\varepsilon^2}$$

for the indicated value of  $\gamma$  and configuration of missing segments from the original design. The  $\lambda$  - sequence of the design with missing segments can be reconstructed from the  $\lambda$  - sequence of the original design. An example of such a reconstruction is given in Section 3. The three year designs are arranged according to their two year parent design. The value of SS is the number of segments in the parent design.

R = 2<sup>2</sup> SS = 0 2<sup>2</sup> 0

LAMBDA : 0 0 0 0 2 0 0

| NO.MISSING |   | NO.MISSING IN |       |       | GAMMA |       |       |
|------------|---|---------------|-------|-------|-------|-------|-------|
| L4 L5 L6   |   | 0.50          | 1.00  | 2.00  | 3.00  | 4.00  | 10.00 |
| 0          | 0 | 0 0 0         | 0.528 | 0.778 | 1.278 | 2.278 | 5.278 |
| 1          | 0 | 1 0 0         | 0.779 | 1.038 | 1.544 | 2.046 | 5.549 |

LAMBDA : 0 1 0 0 1 0 1

| NO.MISSING |   | NO.MISSING IN |       |       | GAMMA |       |        |
|------------|---|---------------|-------|-------|-------|-------|--------|
| L4 L5 L6   |   | 0.50          | 1.00  | 2.00  | 3.00  | 4.00  | 10.00  |
| 0          | 0 | 0 0 0         | 0.475 | 0.650 | 0.990 | 1.326 | 3.664  |
| 1          | 0 | 1 0 0         | 0.967 | 1.467 | 2.467 | 3.467 | 10.467 |

LAMBDA : 0 2 0 0 0 0 2

| NO.MISSING |   | NO.MISSING IN |       |       | GAMMA |       |       |
|------------|---|---------------|-------|-------|-------|-------|-------|
| L4 L5 L6   |   | 0.50          | 1.00  | 2.00  | 3.00  | 4.00  | 10.00 |
| 0          | 0 | 0 0 0         | 0.528 | 0.778 | 1.278 | 2.278 | 5.278 |

R = 2 3  
LAMBDA STAR : 1 1 1

LAMBDA : 0 0 1 1 0 0

| NO.MISSING | NO.MISSING IN<br>L4 L5 L6 | 0.50  | 1.00  | 2.00  | GAMMA<br>3.00 | 4.00  | 10.00 | 50.00  | 100.00 |
|------------|---------------------------|-------|-------|-------|---------------|-------|-------|--------|--------|
| 0          | 0 0 0                     | 0.486 | 0.666 | 1.011 | 1.349         | 1.685 | 3.690 | 17.027 | 33.694 |
| 1          | 0 1 0                     | 0.802 | 1.030 | 1.417 | 1.774         | 2.121 | 4.149 | 17.499 | 34.168 |
| 1          | 1 0 0                     | 0.736 | 0.921 | 1.267 | 1.605         | 1.940 | 3.945 | 17.281 | 33.948 |

LAMBDA : 0 1 0 1 0 1 0

| NO.MISSING | NO.MISSING IN<br>L4 L5 L6 | 0.50  | 1.00  | 2.00  | GAMMA<br>3.00 | 4.00  | 10.00 | 50.00  | 100.00 |
|------------|---------------------------|-------|-------|-------|---------------|-------|-------|--------|--------|
| 0          | 0 0 0                     | 0.470 | 0.641 | 0.978 | 1.312         | 1.646 | 3.647 | 16.981 | 33.648 |
| 1          | 0 0 1                     | 0.802 | 1.030 | 1.417 | 1.774         | 2.121 | 4.149 | 17.499 | 34.168 |
| 1          | 1 0 0                     | 0.802 | 1.030 | 1.417 | 1.774         | 2.121 | 4.149 | 17.499 | 34.168 |

LAMBDA : 1 0 0 0 1 1 0

| NO.MISSING | NO.MISSING IN<br>L4 L5 L6 | 0.50  | 1.00  | 2.00  | GAMMA<br>3.00 | 4.00  | 10.00 | 50.00  | 100.00 |
|------------|---------------------------|-------|-------|-------|---------------|-------|-------|--------|--------|
| 0          | 0 0 0                     | 0.486 | 0.666 | 1.011 | 1.349         | 1.685 | 3.690 | 17.027 | 33.694 |
| 1          | 0 0 1                     | 0.736 | 0.921 | 1.267 | 1.605         | 1.940 | 3.945 | 17.281 | 33.948 |
| 1          | 0 1 0                     | 0.802 | 1.030 | 1.417 | 1.774         | 2.121 | 4.149 | 17.499 | 34.168 |

LAMBDA : 0 1 1 1 0 0 1

| NO.MISSING | NO.MISSING IN<br>L4 L5 L6 | 0.50  | 1.00  | 2.00  | GAMMA<br>3.00 | 4.00  | 10.00  | 50.00  | 100.00  |
|------------|---------------------------|-------|-------|-------|---------------|-------|--------|--------|---------|
| 0          | 0 0 0                     | 0.482 | 0.647 | 0.939 | 1.211         | 1.474 | 3.003  | 13.022 | 25.525  |
| 1          | 1 0 0                     | 0.967 | 1.467 | 2.467 | 3.467         | 4.467 | 10.467 | 50.467 | 100.467 |

LAMBDA : 1 0 1 0 1 0 1

| NO. MISSING |   | NO. MISSING IN |       |       | GAMMA |       |        |
|-------------|---|----------------|-------|-------|-------|-------|--------|
| L4 L5 L6    |   | 0.50           | 1.00  | 2.00  | 3.00  | 4.00  | 10.00  |
| 0           | 0 | 0.461          | 0.606 | 0.874 | 1.132 | 1.386 | 2.896  |
| 1           | 0 | 0.967          | 1.467 | 2.467 | 3.467 | 4.467 | 10.467 |

LAMBDA : 1 1 0 0 0 1 1

| NO. MISSING |   | NO. MISSING IN |       |       | GAMMA |       |        |
|-------------|---|----------------|-------|-------|-------|-------|--------|
| L4 L5 L6    |   | 0.50           | 1.00  | 2.00  | 3.00  | 4.00  | 10.00  |
| 0           | 0 | 0.482          | 0.647 | 0.939 | 1.211 | 1.474 | 3.003  |
| 1           | 0 | 0.967          | 1.467 | 2.467 | 3.467 | 4.467 | 10.467 |

LAMBDA : 1 1 1 0 0 0 2

| NO. MISSING |   | NO. MISSING IN |       |       | GAMMA |       |       |
|-------------|---|----------------|-------|-------|-------|-------|-------|
| L4 L5 L6    |   | 0.50           | 1.00  | 2.00  | 3.00  | 4.00  | 10.00 |
| 0           | 0 | 0.528          | 0.778 | 1.278 | 1.778 | 2.278 | 5.278 |

$R = 2^2$     $SS = 2^4$   
 LAMBDA STAR : 2 0 2

LAMBDA : 0 0 2 2 0 0 0

| NO.MISSING |   | NO.MISSING IN |   | GAMMA |       | GAMMA |       |
|------------|---|---------------|---|-------|-------|-------|-------|
| 0          | 0 | 0             | 0 | 0.528 | 0.778 | 1.278 | 1.778 |
| 1          | 1 | 0             | 0 | 0.817 | 1.092 | 1.610 | 2.117 |
|            |   |               |   |       |       |       |       |

LAMBDA : 1 0 1 1 0 1 0

| NO.MISSING |   | NO.MISSING IN |   | GAMMA |       | GAMMA |       |
|------------|---|---------------|---|-------|-------|-------|-------|
| 0          | 0 | 0             | 0 | 0.453 | 0.590 | 0.849 | 1.103 |
| 1          | 1 | 0             | 1 | 0.817 | 1.092 | 1.610 | 2.117 |
|            |   |               |   |       |       |       |       |

LAMBDA : 2 0 0 0 0 2 0

| NO.MISSING |   | NO.MISSING IN |   | GAMMA |       | GAMMA |       |
|------------|---|---------------|---|-------|-------|-------|-------|
| 0          | 0 | 0             | 0 | 0.528 | 0.778 | 1.278 | 1.778 |
| 1          | 1 | 0             | 1 | 0.817 | 1.092 | 1.610 | 2.117 |
|            |   |               |   |       |       |       |       |

LAMBDA : 1 0 2 1 0 0 1

| NO.MISSING |   | NO.MISSING IN |   | GAMMA |       | GAMMA |       |
|------------|---|---------------|---|-------|-------|-------|-------|
| 0          | 0 | 0             | 0 | 0.487 | 0.669 | 1.015 | 1.355 |
| 1          | 1 | 0             | 0 | 0.967 | 1.467 | 2.467 | 3.467 |
|            |   |               |   |       |       |       |       |

LAMBDA : 2 0 1 0 0 1 1

| NO. MISSING |   | NO. MISSING IN |   | GAMMA |       | 100.00 |       |
|-------------|---|----------------|---|-------|-------|--------|-------|
| L4 L5 L6    |   | L4 L5 L6       |   | 3.00  |       | 50.00  |       |
| 0           | 0 | 0              | 0 | 1.00  | 2.00  | 4.00   | 10.00 |
| 1           | 0 | 0              | 1 | 0.487 | 0.669 | 1.015  | 1.355 |
|             |   |                |   | 0.967 | 1.467 | 2.467  | 3.467 |

LAMBDA : 2 0 2 0 0 0 2

| NO. MISSING |   | NO. MISSING IN |   | GAMMA |       | 100.00 |       |
|-------------|---|----------------|---|-------|-------|--------|-------|
| L4 L5 L6    |   | L4 L5 L6       |   | 3.00  |       | 50.00  |       |
| 0           | 0 | 0              | 0 | 0.50  | 1.00  | 2.00   | 4.00  |
|             |   |                |   | 0.528 | 0.778 | 1.278  | 1.778 |

R = 3    SS = 3  
LAMBDA STAR : 0 3 0

LAMBDA : 0 0 0 0 3 0 0

| NO. MISSING | NO. MISSING IN<br>L4 L5 L6 | 0.50  | 1.00  | 2.00  | 3.00  | 4.00  | 10.00 | 50.00  | 100.00 |
|-------------|----------------------------|-------|-------|-------|-------|-------|-------|--------|--------|
| 0           | 0 0 0                      | 0.352 | 0.519 | 0.852 | 1.185 | 1.519 | 3.519 | 16.852 | 33.519 |
| 1           | 0 1 0                      | 0.437 | 0.607 | 0.942 | 1.276 | 1.610 | 3.611 | 16.944 | 33.611 |
| 2           | 0 2 0                      | 0.679 | 0.857 | 1.198 | 1.534 | 1.869 | 3.871 | 17.206 | 33.873 |

LAMBDA : 0 1 0 0 2 0 1

| NO. MISSING | NO. MISSING IN<br>L4 L5 L6 | 0.50  | 1.00  | 2.00  | 3.00  | 4.00  | 10.00  | 50.00  | 100.00  |
|-------------|----------------------------|-------|-------|-------|-------|-------|--------|--------|---------|
| 0           | 0 0 0                      | 0.323 | 0.450 | 0.702 | 0.953 | 1.203 | 2.704  | 12.704 | 25.204  |
| 1           | 0 1 0                      | 0.426 | 0.568 | 0.832 | 1.088 | 1.342 | 2.849  | 12.853 | 25.354  |
| 2           | 0 2 0                      | 0.929 | 1.429 | 2.429 | 3.429 | 4.429 | 10.429 | 50.429 | 100.429 |

LAMBDA : 0 2 0 0 1 0 2

| NO. MISSING | NO. MISSING IN<br>L4 L5 L6 | 0.50  | 1.00  | 2.00  | 3.00  | 4.00  | 10.00 | 50.00  | 100.00 |
|-------------|----------------------------|-------|-------|-------|-------|-------|-------|--------|--------|
| 0           | 0 0 0                      | 0.317 | 0.430 | 0.641 | 0.846 | 1.049 | 2.256 | 10.260 | 20.260 |
| 1           | 0 1 0                      | 0.500 | 0.750 | 1.250 | 1.750 | 2.250 | 5.250 | 25.250 | 50.250 |

LAMBDA : 0 3 0 0 0 0 3

| NO. MISSING | NO. MISSING IN<br>L4 L5 L6 | 0.50  | 1.00  | 2.00  | 3.00  | 4.00  | 10.00 | 50.00  | 100.00 |
|-------------|----------------------------|-------|-------|-------|-------|-------|-------|--------|--------|
| 0           | 0 0 0                      | 0.352 | 0.519 | 0.852 | 1.185 | 1.519 | 3.519 | 16.852 | 33.519 |

R = 3    LAMBDA STAR : 1 2 1  
 SS = 1 2 4

LAMBDA : 0 0 1 1 2 0 0

| NO. MISSING |   | NO. MISSING IN |   | NO. MISSING IN |       | NO. MISSING IN |       |
|-------------|---|----------------|---|----------------|-------|----------------|-------|
| L4 L5 L6    |   | L4 L5 L6       |   | L4 L5 L6       |       | L4 L5 L6       |       |
| 0           | 0 | 0              | 0 | 0.328          | 0.459 | 0.713          | 0.964 |
| 1           | 0 | 1              | 0 | 0.421          | 0.557 | 0.816          | 1.069 |
| 1           | 1 | 0              | 0 | 0.417          | 0.550 | 0.806          | 1.058 |
| 2           | 2 | 0              | 0 | 0.720          | 0.895 | 1.184          | 1.451 |
|             |   |                |   | 0.658          | 0.800 | 1.061          | 1.315 |

LAMBDA : 0 1 0 1 1 1 0

| NO. MISSING |   | NO. MISSING IN |   | NO. MISSING IN |       | NO. MISSING IN |       |
|-------------|---|----------------|---|----------------|-------|----------------|-------|
| L4 L5 L6    |   | L4 L5 L6       |   | L4 L5 L6       |       | L4 L5 L6       |       |
| 0           | 0 | 0              | 0 | 0.322          | 0.449 | 0.700          | 0.950 |
| 1           | 0 | 0              | 1 | 0.421          | 0.557 | 0.816          | 1.069 |
| 1           | 1 | 0              | 0 | 0.417          | 0.550 | 0.806          | 1.058 |
| 1           | 1 | 1              | 0 | 0.421          | 0.557 | 0.816          | 1.069 |
| 2           | 2 | 0              | 1 | 0.720          | 0.895 | 1.184          | 1.451 |
|             |   |                |   | 0.658          | 0.800 | 1.061          | 1.315 |
|             |   |                |   | 0.720          | 0.895 | 1.184          | 1.451 |

LAMBDA : 1 0 0 0 2 1 0

| NO. MISSING |   | NO. MISSING IN |   | NO. MISSING IN |       | NO. MISSING IN |       |
|-------------|---|----------------|---|----------------|-------|----------------|-------|
| L4 L5 L6    |   | L4 L5 L6       |   | L4 L5 L6       |       | L4 L5 L6       |       |
| 0           | 0 | 0              | 0 | 0.328          | 0.459 | 0.713          | 0.964 |
| 1           | 0 | 0              | 1 | 0.417          | 0.550 | 0.806          | 1.058 |
| 1           | 1 | 0              | 0 | 0.421          | 0.557 | 0.816          | 1.069 |
| 2           | 2 | 0              | 1 | 0.658          | 0.800 | 1.061          | 1.315 |
|             |   |                |   | 0.720          | 0.895 | 1.184          | 1.451 |

LAMBDA : 0 1 1 1 1 0 1

| NO. MISSING |   | NO. MISSING IN<br>L4 L5 L6 |   | BANNA |       | 50.00 |       | 100.00 |        |
|-------------|---|----------------------------|---|-------|-------|-------|-------|--------|--------|
| 0           | 0 | 0                          | 0 | 0.50  | 1.00  | 2.00  | 3.00  | 4.00   | 10.00  |
| 1           | 0 | 1                          | 0 | 0.314 | 0.424 | 0.632 | 0.835 | 1.037  | 2.241  |
| 1           | 1 | 0                          | 0 | 0.440 | 0.583 | 0.826 | 1.047 | 1.260  | 2.487  |
| 2           | 1 | 1                          | 0 | 0.419 | 0.544 | 0.766 | 0.976 | 1.182  | 2.394  |
|             |   |                            |   | 0.929 | 1.429 | 2.429 | 3.429 | 4.429  | 10.429 |

LAMBDA : 0 2 0 1 0 1 1

| NO. MISSING |   | NO. MISSING IN<br>L4 L5 L6 |   | BANNA |       | 50.00 |       | 100.00 |        |
|-------------|---|----------------------------|---|-------|-------|-------|-------|--------|--------|
| 0           | 0 | 0                          | 0 | 0.312 | 0.420 | 0.626 | 0.828 | 1.029  | 2.232  |
| 1           | 0 | 0                          | 1 | 0.440 | 0.583 | 0.826 | 1.047 | 1.260  | 2.487  |
| 1           | 1 | 0                          | 0 | 0.440 | 0.583 | 0.826 | 1.047 | 1.260  | 2.487  |
| 2           | 1 | 0                          | 1 | 0.929 | 1.429 | 2.429 | 3.429 | 4.429  | 10.429 |

LAMBDA : 1 0 1 0 2 0 1

| NO. MISSING |   | NO. MISSING IN<br>L4 L5 L6 |   | BANNA |       | 50.00 |       | 100.00 |        |
|-------------|---|----------------------------|---|-------|-------|-------|-------|--------|--------|
| 0           | 0 | 0                          | 0 | 0.312 | 0.420 | 0.626 | 0.828 | 1.029  | 2.232  |
| 1           | 0 | 1                          | 0 | 0.419 | 0.544 | 0.766 | 0.976 | 1.182  | 2.394  |
| 2           | 0 | 2                          | 0 | 0.929 | 1.429 | 2.429 | 3.429 | 4.429  | 10.429 |

LAMBDA : 1 1 0 0 1 1 1

| NO. MISSING |   | NO. MISSING IN<br>L4 L5 L6 |   | BANNA |       | 50.00 |       | 100.00 |        |
|-------------|---|----------------------------|---|-------|-------|-------|-------|--------|--------|
| 0           | 0 | 0                          | 0 | 0.314 | 0.424 | 0.632 | 0.835 | 1.037  | 2.241  |
| 1           | 0 | 0                          | 1 | 0.419 | 0.544 | 0.766 | 0.976 | 1.182  | 2.394  |
| 1           | 0 | 1                          | 0 | 0.440 | 0.583 | 0.826 | 1.047 | 1.260  | 2.487  |
| 2           | 0 | 1                          | 1 | 0.929 | 1.429 | 2.429 | 3.429 | 4.429  | 10.429 |

LAMBDA : 0 2 1 1 0 0 2 NO MISSING TN

| NO. MISSING | NO. MISSING IN | L <sub>4</sub> | L <sub>5</sub> | L <sub>6</sub> | 0.50  | 1.00  | 2.00  | 3.00  | 4.00  | 10.00 | 50.00  | 100.00 |
|-------------|----------------|----------------|----------------|----------------|-------|-------|-------|-------|-------|-------|--------|--------|
| 0           | 0              | 0              | 0              | 0              | 0.324 | 0.438 | 0.637 | 0.822 | 0.999 | 2.024 | 5.708  | 17.044 |
| 1           | 1              | 1              | 0              | 0              | 0.750 | 1.250 | 1.750 | 2.253 | 2.253 | 5.250 | 25.250 | 50.250 |

LAMBDA :: 1 1 1 0 1 0 2

LENTELLA : 1 1 2 0 0 0 1 2

LAMBDA : 1 2 1 0 0 0 0 3

R = 3    LAMBDA STAR : 2 1 5  
 SS = 2 1 2

LAMBDA : 0 0 2 2 1 0 0

| NO. MISSING | NO. MISSING IN<br>L4 L5 L6 | 0.50  | 1.00  | 2.00  | 3.00  | GAMMA | 4.00  | 10.00  | 50.00  | 100.00 |
|-------------|----------------------------|-------|-------|-------|-------|-------|-------|--------|--------|--------|
| 0           | 0 0 0                      | 0.324 | 0.441 | 0.656 | 0.863 | 1.067 | 2.276 | 10.281 | 20.282 | 20.508 |
| 1           | 0 1 0                      | 0.440 | 0.583 | 0.826 | 1.047 | 1.260 | 2.487 | 10.505 | 20.363 | 20.852 |
| 1           | 1 0 0                      | 0.410 | 0.528 | 0.742 | 0.948 | 1.151 | 2.358 | 10.362 | 20.849 | 20.588 |
| 2           | 1 1 0                      | 0.719 | 0.887 | 1.147 | 1.375 | 1.592 | 2.827 | 10.585 | 20.588 | 20.588 |
| 2           | 2 0 0                      | 0.643 | 0.762 | 0.974 | 1.179 | 1.381 | 2.585 |        |        |        |

LAMBDA : 0 1 1 2 0 1 0

| NO. MISSING | NO. MISSING IN<br>L4 L5 L6 | 0.50  | 1.00  | 2.00  | 3.00  | GAMMA | 4.00  | 10.00  | 50.00  | 100.00 |
|-------------|----------------------------|-------|-------|-------|-------|-------|-------|--------|--------|--------|
| 0           | 0 0 0                      | 0.312 | 0.420 | 0.626 | 0.828 | 1.029 | 2.232 | 10.234 | 20.234 | 20.508 |
| 1           | 0 0 1                      | 0.440 | 0.583 | 0.826 | 1.047 | 1.260 | 2.487 | 10.505 | 20.343 | 20.852 |
| 1           | 1 0 0                      | 0.407 | 0.521 | 0.731 | 0.934 | 1.136 | 2.340 | 10.343 | 20.343 | 20.343 |
| 2           | 1 0 1                      | 0.719 | 0.887 | 1.147 | 1.375 | 1.592 | 2.827 | 10.849 | 20.852 | 20.852 |
| 2           | 2 0 0                      | 0.719 | 0.887 | 1.147 | 1.375 | 1.592 | 2.827 | 10.849 | 20.852 |        |

LAMBDA : 1 0 1 1 1 1 0

| NO. MISSING | NO. MISSING IN<br>L4 L5 L6 | 0.50  | 1.00  | 2.00  | 3.00  | GAMMA | 4.00  | 10.00  | 50.00  | 100.00 |
|-------------|----------------------------|-------|-------|-------|-------|-------|-------|--------|--------|--------|
| 0           | 0 0 0                      | 0.310 | 0.416 | 0.621 | 0.822 | 1.023 | 2.225 | 10.226 | 20.226 | 20.508 |
| 1           | 0 0 1                      | 0.410 | 0.528 | 0.742 | 0.948 | 1.151 | 2.358 | 10.362 | 20.363 | 20.852 |
| 1           | 0 1 0                      | 0.407 | 0.521 | 0.731 | 0.934 | 1.136 | 2.340 | 10.343 | 20.343 | 20.343 |
| 1           | 1 0 0                      | 0.410 | 0.528 | 0.742 | 0.948 | 1.151 | 2.358 | 10.362 | 20.363 | 20.363 |
| 2           | 1 0 1                      | 0.719 | 0.887 | 1.147 | 1.375 | 1.592 | 2.827 | 10.849 | 20.852 | 20.852 |
| 2           | 2 0 1                      | 0.643 | 0.762 | 0.974 | 1.179 | 1.381 | 2.585 | 10.588 | 20.588 | 20.588 |
| 2           | 2 1 0                      | 0.719 | 0.887 | 1.147 | 1.375 | 1.592 | 2.827 | 10.849 | 20.852 |        |

LAMBDA : 1 1 0 1 0 2 0

| NO.MISSING | NO.MISSING IN |    |    | GAMMA | 10.00 | 50.00 | 100.00 |
|------------|---------------|----|----|-------|-------|-------|--------|
|            | L4            | L5 | L6 |       |       |       |        |
| 0          | 0             | 0  | 0  | 0.312 | 0.626 | 0.828 | 2.232  |
| 1          | 0             | 0  | 1  | 0.407 | 0.521 | 0.731 | 1.136  |
| 1          | 1             | 0  | 0  | 0.440 | 0.583 | 0.826 | 1.047  |
| 2          | 0             | 0  | 2  | 0.719 | 0.887 | 1.147 | 1.375  |
| 2          | 1             | 0  | 1  | 0.719 | 0.887 | 1.147 | 1.375  |

LAMBDA : 2 0 0 0 1 2 0

| NO.MISSING | NO.MISSING IN |    |    | GAMMA | 10.00 | 50.00 | 100.00 |
|------------|---------------|----|----|-------|-------|-------|--------|
|            | L4            | L5 | L6 |       |       |       |        |
| 0          | 0             | 0  | 0  | 0.324 | 0.441 | 0.656 | 0.863  |
| 1          | 0             | 0  | 1  | 0.410 | 0.528 | 0.742 | 0.948  |
| 1          | 1             | 0  | 0  | 0.440 | 0.583 | 0.826 | 1.047  |
| 2          | 0             | 0  | 2  | 0.643 | 0.762 | 0.974 | 1.179  |
| 2          | 0             | 1  | 1  | 0.719 | 0.887 | 1.147 | 1.375  |

LAMBDA : 0 1 2 2 0 0 1

| NO.MISSING | NO.MISSING IN |    |    | GAMMA | 10.00 | 50.00 | 100.00 |
|------------|---------------|----|----|-------|-------|-------|--------|
|            | L4            | L5 | L6 |       |       |       |        |
| 0          | 0             | 0  | 0  | 0.324 | 0.438 | 0.637 | 0.822  |
| 1          | 1             | 0  | 0  | 0.440 | 0.580 | 0.808 | 1.008  |
| 2          | 2             | 0  | 0  | 0.929 | 1.429 | 2.429 | 3.429  |

LAMBDA : 1 0 2 1 1 0 1

| NO.MISSING | NO.MISSING IN |    |    | GAMMA | 10.00 | 50.00 | 100.00 |
|------------|---------------|----|----|-------|-------|-------|--------|
|            | L4            | L5 | L6 |       |       |       |        |
| 0          | 0             | 0  | 0  | 0.309 | 0.407 | 0.588 | 0.760  |
| 1          | 0             | 1  | 0  | 0.440 | 0.580 | 0.808 | 1.008  |
| 1          | 1             | 0  | 0  | 0.414 | 0.528 | 0.722 | 0.901  |
| 2          | 1             | 1  | 0  | 0.929 | 1.429 | 2.429 | 3.429  |

LAMBDA : 1 1 1 1 0 1 1

| NO. MISSING |   | NO. MISSING IN |   |   | GAMMA |       |       | GAMMA |       |         |
|-------------|---|----------------|---|---|-------|-------|-------|-------|-------|---------|
|             |   | L4 L5 L6       |   |   | 3.00  |       |       | 3.00  |       |         |
| 0           | 0 | 0              | 0 | 0 | 0.50  | 1.00  | 2.00  | 0.921 | 1.927 | 50.00   |
| 1           | 1 | 0              | 1 | 0 | 0.307 | 0.403 | 0.581 | 0.752 | 0.921 | 100.00  |
| 1           | 1 | 0              | 0 | 1 | 0.440 | 0.580 | 0.808 | 1.008 | 1.196 | 16.930  |
| 2           | 1 | 1              | 0 | 1 | 0.440 | 0.580 | 0.808 | 1.008 | 1.196 | 17.282  |
|             |   |                |   |   | 0.929 | 1.429 | 2.429 | 3.429 | 4.429 | 17.282  |
|             |   |                |   |   |       |       |       | 3.429 | 4.429 | 100.429 |

LAMBDA : 2 0 1 0 1 1 1

| NO. MISSING |   | NO. MISSING IN |   |   | GAMMA |       |       | GAMMA |       |        |
|-------------|---|----------------|---|---|-------|-------|-------|-------|-------|--------|
|             |   | L4 L5 L6       |   |   | 3.00  |       |       | 3.00  |       |        |
| 0           | 0 | 0              | 0 | 0 | 0.50  | 1.00  | 2.00  | 0.921 | 1.927 | 50.00  |
| 1           | 1 | 0              | 1 | 0 | 0.309 | 0.407 | 0.588 | 0.751 | 0.938 | 100.00 |
| 1           | 1 | 0              | 0 | 1 | 0.440 | 0.580 | 0.808 | 1.008 | 1.196 | 16.944 |
| 2           | 0 | 1              | 1 | 1 | 0.929 | 1.429 | 2.429 | 3.429 | 4.429 | 17.101 |
|             |   |                |   |   |       |       |       | 3.429 | 4.429 | 50.429 |

LAMBDA : 2 1 0 0 0 2 1

| NO. MISSING |   | NO. MISSING IN |   |   | GAMMA |       |       | GAMMA |       |        |
|-------------|---|----------------|---|---|-------|-------|-------|-------|-------|--------|
|             |   | L4 L5 L6       |   |   | 3.00  |       |       | 3.00  |       |        |
| 0           | 0 | 0              | 0 | 0 | 0.50  | 1.00  | 2.00  | 0.822 | 0.999 | 50.00  |
| 1           | 1 | 0              | 1 | 0 | 0.324 | 0.438 | 0.637 | 0.822 | 0.999 | 100.00 |
| 1           | 1 | 0              | 0 | 1 | 0.440 | 0.580 | 0.808 | 1.008 | 1.196 | 17.044 |
| 2           | 0 | 0              | 2 | 0 | 0.929 | 1.429 | 2.429 | 3.429 | 4.429 | 17.282 |
|             |   |                |   |   |       |       |       | 3.429 | 4.429 | 50.429 |

LAMBDA : 1 1 2 1 0 0 2

| NO. MISSING |   | NO. MISSING IN |   |   | GAMMA |       |       | GAMMA |       |        |
|-------------|---|----------------|---|---|-------|-------|-------|-------|-------|--------|
|             |   | L4 L5 L6       |   |   | 3.00  |       |       | 3.00  |       |        |
| 0           | 0 | 0              | 0 | 0 | 0.50  | 1.00  | 2.00  | 0.798 | 0.959 | 50.00  |
| 1           | 1 | 0              | 0 | 0 | 0.324 | 0.436 | 0.627 | 0.750 | 0.959 | 100.00 |
|             |   |                |   |   | 0.500 | 0.750 | 1.250 | 1.750 | 2.250 | 14.736 |
|             |   |                |   |   |       |       |       | 1.750 | 2.250 | 50.250 |

LAMBDA : 2 0 2 0 1 0 2

| NO.MISSING IN |   |   |   |       |       |       |
|---------------|---|---|---|-------|-------|-------|
| L4 L5 L6      |   |   |   |       |       |       |
| 0             | 0 | 0 | 0 | 0.50  | 1.00  | 2.00  |
| 1             | 0 | 1 | 0 | 0.311 | 0.407 | 0.575 |
|               |   |   |   | 0.500 | 0.750 | 1.250 |

LAMBDA : 2 1 1 0 0 1 2

| NO.MISSING IN |   |   |   |       |       |       |
|---------------|---|---|---|-------|-------|-------|
| L4 L5 L6      |   |   |   |       |       |       |
| 0             | 0 | 0 | 0 | 0.50  | 1.00  | 2.00  |
| 1             | 0 | 0 | 1 | 0.324 | 0.436 | 0.627 |
|               |   |   |   | 0.500 | 0.750 | 1.250 |

LAMBDA : 2 1 2 0 0 0 3

| NO.MISSING IN |   |   |   |       |       |       |
|---------------|---|---|---|-------|-------|-------|
| L4 L5 L6      |   |   |   |       |       |       |
| 0             | 0 | 0 | 0 | 0.50  | 1.00  | 2.00  |
|               |   |   |   | 0.352 | 0.519 | 0.852 |
|               |   |   |   |       | 1.185 | 1.519 |

R = 3    SS = 3 0<sup>6</sup>  
 LAMBDA STAR : 3 0 3

| LAMBDA : 0 0 3 3 0 0 0  |       |                            |
|-------------------------|-------|----------------------------|
| NO. MISSING IN L4 L5 L6 |       |                            |
| 0                       | 0 0 0 | 0.50 1.00                  |
| 1                       | 1 0 0 | 0.352 0.519                |
| 2                       | 2 0 0 | 0.450 0.625<br>0.729 0.929 |

| LAMBDA : 1 0 2 2 0 1 0  |       |   |
|-------------------------|-------|---|
| NO. MISSING IN L4 L5 L6 |       |   |
| 0                       | 0 0 0 | 0.50 1.00                                 |
| 1                       | 0 0 1 | 0.306 0.402<br>0.450 0.625<br>0.400 0.500 |
| 2                       | 1 0 1 | 0.729 0.929<br>0.729 0.929                |

| LAMBDA : 2 0 1 1 0 2 0  |       |  |
|-------------------------|-------|--|
| NO. MISSING IN L4 L5 L6 |       |  |
| 0                       | 0 0 0 | 0.50 1.00  |
| 1                       | 0 0 1 | 0.306 0.402<br>0.400 0.500<br>0.450 0.625<br>0.729 0.929 |
| 2                       | 0 0 2 | 0.729 0.929  |

LAMBDA : 3 0 0 0 0 3 0

| NO. MISSING |   | NO. MISSING IN |   |   | GAMMA    |       |       | GAMMA    |       |       |
|-------------|---|----------------|---|---|----------|-------|-------|----------|-------|-------|
|             |   | L4 L5 L6       |   |   | L4 L5 L6 |       |       | L4 L5 L6 |       |       |
| 0           | 0 | 0              | 0 | 0 | 0.50     | 1.00  | 2.00  | 3.00     | 4.00  | 10.00 |
| 1           | 0 | 0              | 1 | 0 | 0.352    | 0.519 | 0.852 | 1.185    | 1.519 | 3.519 |
| 2           | 0 | 0              | 2 | 0 | 0.450    | 0.625 | 0.964 | 1.300    | 1.635 | 3.639 |
|             |   |                |   |   | 0.729    | 0.929 | 1.286 | 1.629    | 1.967 | 3.977 |

LAMBDA : 1 0 3 2 0 0 1

| NO. MISSING |   | NO. MISSING IN |   |   | GAMMA    |       |       | GAMMA    |       |        |
|-------------|---|----------------|---|---|----------|-------|-------|----------|-------|--------|
|             |   | L4 L5 L6       |   |   | L4 L5 L6 |       |       | L4 L5 L6 |       |        |
| 0           | 0 | 0              | 0 | 0 | 0.50     | 1.00  | 2.00  | 3.00     | 4.00  | 10.00  |
| 1           | 0 | 1              | 0 | 0 | 0.329    | 0.459 | 0.714 | 0.965    | 1.216 | 2.718  |
| 2           | 0 | 2              | 0 | 0 | 0.443    | 0.596 | 0.872 | 1.134    | 1.390 | 2.905  |
|             |   |                |   |   | 0.929    | 1.429 | 2.429 | 3.429    | 4.429 | 10.429 |

LAMBDA : 2 0 2 1 0 1 1

| NO. MISSING |   | NO. MISSING IN |   |   | GAMMA    |       |       | GAMMA    |       |        |
|-------------|---|----------------|---|---|----------|-------|-------|----------|-------|--------|
|             |   | L4 L5 L6       |   |   | L4 L5 L6 |       |       | L4 L5 L6 |       |        |
| 0           | 0 | 0              | 0 | 0 | 0.50     | 1.00  | 2.00  | 3.00     | 4.00  | 10.00  |
| 1           | 0 | 0              | 1 | 0 | 0.304    | 0.392 | 0.548 | 0.697    | 0.844 | 1.708  |
| 2           | 1 | 0              | 0 | 1 | 0.443    | 0.596 | 0.872 | 1.134    | 1.390 | 2.905  |
|             |   |                |   |   | 0.443    | 0.596 | 0.872 | 1.134    | 1.390 | 2.905  |
|             |   |                |   |   | 0.929    | 1.429 | 2.429 | 3.429    | 4.429 | 10.429 |

LAMBDA : 3 0 1 0 0 2 1

| NO. MISSING |   | NO. MISSING IN |   |   | GAMMA    |       |       | GAMMA    |       |        |
|-------------|---|----------------|---|---|----------|-------|-------|----------|-------|--------|
|             |   | L4 L5 L6       |   |   | L4 L5 L6 |       |       | L4 L5 L6 |       |        |
| 0           | 0 | 0              | 0 | 0 | 0.50     | 1.00  | 2.00  | 3.00     | 4.00  | 10.00  |
| 1           | 0 | 0              | 1 | 0 | 0.329    | 0.459 | 0.714 | 0.965    | 1.216 | 2.718  |
| 2           | 0 | 0              | 2 | 0 | 0.443    | 0.596 | 0.872 | 1.134    | 1.390 | 2.905  |
|             |   |                |   |   | 0.929    | 1.429 | 2.429 | 3.429    | 4.429 | 10.429 |

LAMBDA : 2 0 3 1 1 0 2

| NO.MISSING |   | NO.MISSING IN |   |   | GAMMA |       |       |
|------------|---|---------------|---|---|-------|-------|-------|
|            |   | L4 L5 L6      |   |   | 0.50  | 1.00  | 2.00  |
| 0          | 0 | 0             | 0 | 0 | 0.325 | 0.444 | 0.663 |
| 1          | 1 | 0             | 0 | 0 | 0.500 | 0.750 | 1.250 |

LAMBDA : 3 0 2 0 0 1 2

| NO.MISSING |   | NO.MISSING IN |   |   | GAMMA |       |       |
|------------|---|---------------|---|---|-------|-------|-------|
|            |   | L4 L5 L6      |   |   | 0.50  | 1.00  | 2.00  |
| 0          | 0 | 0             | 0 | 0 | 0.325 | 0.444 | 0.663 |
| 1          | 0 | 0             | 1 | 0 | 0.500 | 0.750 | 1.250 |

LAMBDA : 3 0 3 0 0 0 3

| NO.MISSING |   | NO.MISSING IN |   |   | GAMMA |       |       |
|------------|---|---------------|---|---|-------|-------|-------|
|            |   | L4 L5 L6      |   |   | 0.50  | 1.00  | 2.00  |
| 0          | 0 | 0             | 0 | 0 | 0.352 | 0.519 | 0.852 |

$R = 4$     $SS = 0 \ 4 \ 4$   
 LAMBDA STAR : 0 4 0

LAMBDA : 0 0 0 0 4 0 0

| NO. MISSING |   |   | NO. MISSING IN |   |   | GAMMA    |       |       |
|-------------|---|---|----------------|---|---|----------|-------|-------|
| L4 L5 L6    |   |   | L4 L5 L6       |   |   | L4 L5 L6 |       |       |
| 0           | 0 | 0 | 0              | 0 | 0 | 0.639    | 0.889 | 1.139 |
| 1           | 0 | 0 | 1              | 0 | 0 | 0.685    | 0.935 | 1.185 |
| 2           | 0 | 0 | 2              | 0 | 0 | 0.772    | 1.023 | 1.273 |
| 3           | 0 | 0 | 3              | 0 | 0 | 0.765    | 1.023 | 1.276 |

LAMBDA : 0 1 0 0 3 0 1

| NO. MISSING |   |   | NO. MISSING IN |   |   | GAMMA    |       |       |
|-------------|---|---|----------------|---|---|----------|-------|-------|
| L4 L5 L6    |   |   | L4 L5 L6       |   |   | L4 L5 L6 |       |       |
| 0           | 0 | 0 | 0              | 0 | 0 | 0.748    | 0.948 | 1.149 |
| 1           | 0 | 1 | 0              | 0 | 0 | 0.602    | 0.804 | 1.004 |
| 2           | 0 | 2 | 0              | 0 | 0 | 0.741    | 0.950 | 1.155 |
| 3           | 0 | 3 | 0              | 0 | 0 | 1.407    | 2.407 | 3.407 |

LAMBDA : 0 2 0 0 2 0 2

| NO. MISSING |   |   | NO. MISSING IN |   |   | GAMMA    |       |       |
|-------------|---|---|----------------|---|---|----------|-------|-------|
| L4 L5 L6    |   |   | L4 L5 L6       |   |   | L4 L5 L6 |       |       |
| 0           | 0 | 0 | 0              | 0 | 0 | 0.663    | 0.831 | 1.032 |
| 1           | 0 | 1 | 0              | 0 | 0 | 0.584    | 0.759 | 0.930 |
| 2           | 0 | 2 | 0              | 0 | 0 | 0.733    | 1.233 | 2.233 |

LAMBDA : 0 3 0 0 1 0 3

| NO. MISSING |   |   | NO. MISSING IN |   |   | GAMMA    |       |       |
|-------------|---|---|----------------|---|---|----------|-------|-------|
| L4 L5 L6    |   |   | L4 L5 L6       |   |   | L4 L5 L6 |       |       |
| 0           | 0 | 0 | 0              | 0 | 0 | 0.633    | 0.780 | 1.046 |
| 1           | 0 | 1 | 0              | 0 | 0 | 0.838    | 1.172 | 1.505 |

LAMBDA : 0 4 0 0 0 0 4

| NO.MISSING |   | IN |    |    |
|------------|---|----|----|----|
|            |   | L4 | L5 | L6 |
| 0          | 0 | 0  | 0  | 0  |

|       |       | GAMMA |       |        |
|-------|-------|-------|-------|--------|
|       |       | 0.50  | 1.00  | 2.00   |
| 0.264 | 0.389 | 0.639 | 0.889 | 1.139  |
|       |       |       |       | 2.439  |
|       |       |       |       | 12.639 |
|       |       |       |       | 25.139 |

$$R = \frac{1}{\lambda \kappa B D A} \frac{1}{S^2} \frac{1}{A^2} \frac{1}{S^2} = \frac{1}{1} \frac{5}{3} \frac{1}{1} \frac{5}{3} \frac{1}{1}$$

NO. MISSING IN  
NO. MISSING

0.50 1,00 2.00 BANANA 3.00 4.00 10.00 50.00 100.00

0 0 0 0 0 0 0  
0 1 0 N - H N N  
0 0 1 0 1 0 1  
0 1 1 0 2 3 3

LENGADA :: 8 1 0 1 2 1 8

NO. MISSING IN  
SINS L4 L5 L6

100-00-00-00-0  
0-00-00-00-00-0  
0-0-00-0-0-0-0-0  
-0-0-0-0-0-0-0-0

|         |         |         |         |         |         |         |         |         |
|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 20.199  | 20.208  | 20.314  | 20.313  | 20.297  | 20.314  | 20.708  | 20.554  | 20.708  |
| 110.199 | 110.208 | 110.313 | 110.313 | 110.296 | 110.313 | 110.707 | 110.554 | 110.707 |
| 22.199  | 22.207  | 22.312  | 22.311  | 22.295  | 22.312  | 22.698  | 22.651  | 22.698  |
| 0.797   | 0.805   | 0.907   | 0.907   | 0.897   | 0.907   | 1.482   | 1.347   | 1.482   |
| 0.597   | 0.603   | 0.703   | 0.704   | 0.697   | 0.703   | 1.274   | 1.145   | 1.274   |
| 0.394   | 0.400   | 0.495   | 0.496   | 0.495   | 0.495   | 1.060   | 1.041   | 1.060   |
| 0.000   | 0.000   | 0.000   | 0.000   | 0.000   | 0.000   | 0.824   | 0.821   | 0.824   |
| 0.291   | 0.294   | 0.384   | 0.386   | 0.377   | 0.384   | 0.677   | 0.614   | 0.677   |

```
LAMBDA :: 1 0 0 0 3 1 0
```

MISSING IN  
NO. 47516

0.50 1.00 2.00 BANANA 3.00 4.00 10.00 50.00 100.00

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|       |       |       |       |       |
|-------|-------|-------|-------|-------|
| 0.294 | 0.400 | 0.603 | 0.805 | 1.005 |
| 0.377 | 0.485 | 0.690 | 0.892 | 1.093 |
| 0.387 | 0.495 | 0.703 | 0.907 | 1.108 |
| 0.614 | 0.731 | 0.941 | 1.147 | 1.347 |
| 0.677 | 0.824 | 1.060 | 1.262 | 1.462 |

LAMBDA : 0 1 1 1 2 0 1

| NO. MISSING |   |   |    |   |    |   | NO. MISSING IN |       |       |       |        |        |         |        |
|-------------|---|---|----|---|----|---|----------------|-------|-------|-------|--------|--------|---------|--------|
| L4          |   |   | L5 |   | L6 |   | L4             |       |       | L5    |        | L6     |         |        |
| 0           | 0 | 0 | 0  | 0 | 0  | 0 | 0.238          | 0.326 | 0.496 | 0.664 | 0.831  | 1.833  | 8.500   | 16.834 |
| 1           | 0 | 1 | 0  | 0 | 0  | 0 | 0.290          | 0.385 | 0.561 | 0.731 | 0.905  | 1.905  | 8.574   | 16.908 |
| 1           | 1 | 0 | 0  | 0 | 0  | 0 | 0.287          | 0.379 | 0.553 | 0.722 | 0.891  | 1.894  | 8.562   | 16.896 |
| 2           | 2 | 0 | 2  | 0 | 0  | 0 | 0.417          | 0.547 | 0.760 | 0.949 | 1.130  | 2.159  | 8.845   | 17.181 |
| 2           | 3 | 1 | 2  | 0 | 0  | 0 | 0.394          | 0.507 | 0.699 | 0.877 | 1.051  | 2.065  | 8.740   | 17.075 |
| 3           | 3 | 1 | 1  | 2 | 0  | 0 | 0.907          | 1.407 | 3.407 | 4.407 | 10.407 | 30.407 | 100.407 |        |

LAMBDA : 0 2 0 1 1 1 1

| NO. MISSING |   |   |    |   |    |   | NO. MISSING IN |       |       |       |        |        |         |        |
|-------------|---|---|----|---|----|---|----------------|-------|-------|-------|--------|--------|---------|--------|
| L4          |   |   | L5 |   | L6 |   | L4             |       |       | L5    |        | L6     |         |        |
| 0           | 0 | 0 | 0  | 0 | 0  | 0 | 0.236          | 0.323 | 0.491 | 0.659 | 0.826  | 1.827  | 8.494   | 16.828 |
| 1           | 0 | 0 | 0  | 1 | 0  | 0 | 0.290          | 0.385 | 0.561 | 0.731 | 0.909  | 1.905  | 8.574   | 16.908 |
| 1           | 1 | 0 | 1  | 0 | 0  | 0 | 0.291          | 0.386 | 0.561 | 0.732 | 0.909  | 1.905  | 8.574   | 16.907 |
| 1           | 1 | 1 | 0  | 0 | 0  | 0 | 0.290          | 0.385 | 0.561 | 0.731 | 0.909  | 1.905  | 8.574   | 16.908 |
| 2           | 2 | 0 | 1  | 1 | 0  | 0 | 0.417          | 0.547 | 0.760 | 0.949 | 1.130  | 2.159  | 8.845   | 17.181 |
| 2           | 2 | 1 | 1  | 0 | 1  | 0 | 0.394          | 0.507 | 0.699 | 0.877 | 1.051  | 2.065  | 8.740   | 17.075 |
| 3           | 3 | 1 | 1  | 1 | 0  | 1 | 0.417          | 0.547 | 0.760 | 0.949 | 1.130  | 2.159  | 8.845   | 17.181 |
| 3           | 3 | 1 | 1  | 1 | 1  | 0 | 0.907          | 1.407 | 3.407 | 4.407 | 10.407 | 30.407 | 100.407 |        |

LAMBDA : 1 0 1 0 3 0 1

| NO. MISSING |   |   |    |   |    |   | NO. MISSING IN |       |       |       |        |        |         |        |
|-------------|---|---|----|---|----|---|----------------|-------|-------|-------|--------|--------|---------|--------|
| L4          |   |   | L5 |   | L6 |   | L4             |       |       | L5    |        | L6     |         |        |
| 0           | 0 | 0 | 0  | 0 | 0  | 0 | 0.238          | 0.326 | 0.496 | 0.664 | 0.831  | 1.832  | 8.500   | 16.833 |
| 1           | 0 | 1 | 0  | 0 | 0  | 0 | 0.287          | 0.379 | 0.553 | 0.722 | 0.891  | 1.894  | 8.562   | 16.896 |
| 1           | 2 | 0 | 1  | 0 | 0  | 0 | 0.394          | 0.507 | 0.699 | 0.877 | 1.051  | 2.065  | 8.740   | 17.075 |
| 3           | 3 | 0 | 3  | 0 | 0  | 0 | 0.907          | 1.407 | 3.407 | 4.407 | 10.407 | 30.407 | 100.407 |        |

LAMBDA : 1 1 0 0 2 1 1

| NO. MISSING IN                               |   |   |   |   |   |   | GAMMA |       |       | 100.00 |       |        |
|--|---|---|---|---|---|---|-------|-------|-------|--------|-------|--------|
| L <sub>4</sub> L <sub>5</sub> L <sub>6</sub> |   |   |   |   |   |   | 3.00  | 4.00  | 5.00  | 50.00  | 50.00 | 100.00 |
| 0  | 0 | 0 | 0 | 0 | 0 | 0 | 0.238 | 0.326 | 0.496 | 0.664  | 0.831 | 1.000  |
| 1  | 0 | 0 | 1 | 0 | 0 | 0 | 0.287 | 0.379 | 0.553 | 0.722  | 0.891 | 1.000  |
| 2  | 0 | 1 | 1 | 1 | 0 | 0 | 0.290 | 0.385 | 0.561 | 0.731  | 0.900 | 1.000  |
| 3  | 0 | 1 | 2 | 0 | 1 | 0 | 0.394 | 0.507 | 0.699 | 0.877  | 1.051 | 1.000  |
| 4  | 0 | 2 | 0 | 2 | 0 | 0 | 0.417 | 0.547 | 0.760 | 0.949  | 1.139 | 1.000  |
| 5  | 0 | 0 | 0 | 0 | 0 | 0 | 0.907 | 1.407 | 2.407 | 3.407  | 4.407 | 5.000  |

LAMBDA : 0 2 1 1 1 0 2

| NO. MISSING IN                               |   |   |   |   |   |   | GAMMA |       |       | 100.00 |       |        |
|--|---|---|---|---|---|---|-------|-------|-------|--------|-------|--------|
| L <sub>4</sub> L <sub>5</sub> L <sub>6</sub> |   |   |   |   |   |   | 3.00  | 4.00  | 5.00  | 50.00  | 50.00 | 100.00 |
| 0  | 0 | 0 | 0 | 0 | 0 | 0 | 0.236 | 0.316 | 0.467 | 0.614  | 0.759 | 1.000  |
| 1  | 0 | 1 | 0 | 0 | 0 | 0 | 0.307 | 0.414 | 0.595 | 0.758  | 0.914 | 1.000  |
| 2  | 1 | 0 | 0 | 1 | 0 | 0 | 0.296 | 0.391 | 0.558 | 0.713  | 0.863 | 1.000  |
| 3  | 1 | 1 | 0 | 0 | 1 | 0 | 0.483 | 0.733 | 1.233 | 1.733  | 2.233 | 2.500  |

LAMBDA : 0 3 0 1 0 1 2

| NO. MISSING IN                               |   |   |   |   |   |   | GAMMA |       |       | 100.00 |       |        |
|--|---|---|---|---|---|---|-------|-------|-------|--------|-------|--------|
| L <sub>4</sub> L <sub>5</sub> L <sub>6</sub> |   |   |   |   |   |   | 3.00  | 4.00  | 5.00  | 50.00  | 50.00 | 100.00 |
| 0  | 0 | 0 | 0 | 0 | 0 | 0 | 0.236 | 0.317 | 0.468 | 0.614  | 0.759 | 1.000  |
| 1  | 0 | 0 | 1 | 0 | 0 | 0 | 0.307 | 0.414 | 0.595 | 0.758  | 0.914 | 1.000  |
| 2  | 1 | 0 | 0 | 1 | 0 | 0 | 0.307 | 0.414 | 0.595 | 0.758  | 0.914 | 1.000  |
| 3  | 1 | 1 | 0 | 1 | 0 | 0 | 0.483 | 0.733 | 1.233 | 1.733  | 2.233 | 2.500  |

LAMBDA : 1 1 1 0 2 0 2

| NO. MISSING IN                               |   |   |   |   |   |   | GAMMA |       |       | 100.00 |       |        |
|--|---|---|---|---|---|---|-------|-------|-------|--------|-------|--------|
| L <sub>4</sub> L <sub>5</sub> L <sub>6</sub> |   |   |   |   |   |   | 3.00  | 4.00  | 5.00  | 50.00  | 50.00 | 100.00 |
| 0  | 0 | 0 | 0 | 0 | 0 | 0 | 0.234 | 0.313 | 0.462 | 0.608  | 0.752 | 1.000  |
| 1  | 0 | 1 | 0 | 0 | 1 | 0 | 0.296 | 0.391 | 0.558 | 0.713  | 0.863 | 1.000  |
| 2  | 1 | 0 | 2 | 0 | 0 | 0 | 0.483 | 0.733 | 1.233 | 1.733  | 2.233 | 2.500  |

LAMBDA : 1 2 0 0 1 1 2

|   |   | NO. MISSING IN |       |       |       |       |        |
|---|---|----------------|-------|-------|-------|-------|--------|
|   |   | L4 L5 L6       |       |       |       |       |        |
|   |   | 0.50           | 1.00  | 2.00  | GAMMA |       |        |
| 0 | 0 | 0 0 0          | 0.316 | 0.467 | 0.614 | 0.759 | 1.620  |
| 1 | 1 | 0 0 1          | 0.391 | 0.558 | 0.713 | 0.863 | 1.735  |
| 2 | 2 | 0 1 1          | 0.414 | 0.595 | 0.758 | 0.914 | 1.801  |
|   |   | 0.483          | 0.733 | 1.233 | 1.733 | 2.233 | 25.233 |

LAMBDA : 0 3 1 1 0 0 3

|   |   | NO. MISSING IN |       |       |       |       |       |
|---|---|----------------|-------|-------|-------|-------|-------|
|   |   | L4 L5 L6       |       |       |       |       |       |
|   |   | 0.50           | 1.00  | 2.00  | GAMMA |       |       |
| 0 | 0 | 0 0 0          | 0.244 | 0.335 | 0.490 | 0.633 | 0.769 |
| 1 | 1 | 0 0 0          | 0.338 | 0.505 | 0.838 | 1.172 | 1.505 |

LAMBDA : 1 2 1 0 1 0 3

|   |   | NO. MISSING IN |       |       |       |       |       |
|---|---|----------------|-------|-------|-------|-------|-------|
|   |   | L4 L5 L6       |       |       |       |       |       |
|   |   | 0.50           | 1.00  | 2.00  | GAMMA |       |       |
| 0 | 0 | 0 0 0          | 0.239 | 0.321 | 0.466 | 0.601 | 0.732 |
| 1 | 1 | 0 1 0          | 0.338 | 0.505 | 0.838 | 1.172 | 1.505 |

LAMBDA : 1 3 0 0 0 1 3

|   |   | NO. MISSING IN |       |       |       |       |       |
|---|---|----------------|-------|-------|-------|-------|-------|
|   |   | L4 L5 L6       |       |       |       |       |       |
|   |   | 0.50           | 1.00  | 2.00  | GAMMA |       |       |
| 0 | 0 | 0 0 0          | 0.246 | 0.335 | 0.490 | 0.633 | 0.769 |
| 1 | 1 | 0 0 1          | 0.338 | 0.505 | 0.838 | 1.172 | 1.505 |

LAMBDA : 1 3 1 0 0 0 4

|   |   | NO. MISSING IN |       |       |       |       |       |
|---|---|----------------|-------|-------|-------|-------|-------|
|   |   | L4 L5 L6       |       |       |       |       |       |
|   |   | 0.50           | 1.00  | 2.00  | GAMMA |       |       |
| 0 | 0 | 0 0 0          | 0.264 | 0.389 | 0.639 | 0.889 | 1.139 |
|   |   | 0              | 0 0 0 |       |       |       |       |

R = 4 LAMBDA STAR : 2 2 6 2

LAMBDA : 0 0 2 2 2 0 0

| NO. MISSING | NO. MISSING IN | 0.50  | 1.00  | 2.00  | 3.00  | 4.00  | 10.00 | 50.00 | 100.00 |
|-------------|----------------|-------|-------|-------|-------|-------|-------|-------|--------|
| 0           | 0 0 0          | 0.243 | 0.333 | 0.505 | 0.674 | 0.842 | 1.845 | 8.513 | 16.847 |
| 1           | 0 1 0          | 0.293 | 0.388 | 0.565 | 0.736 | 0.905 | 1.910 | 8.580 | 16.914 |
| 2           | 1 0 0          | 0.286 | 0.378 | 0.550 | 0.719 | 0.887 | 1.889 | 8.357 | 16.891 |
| 3           | 0 2 0          | 0.401 | 0.515 | 0.708 | 0.887 | 1.060 | 2.074 | 8.750 | 17.084 |
| 4           | 1 1 0          | 0.377 | 0.475 | 0.653 | 0.824 | 0.993 | 1.998 | 8.667 | 17.001 |
| 5           | 1 0 0          | 0.461 | 0.638 | 0.633 | 0.802 | 0.970 | 1.972 | 8.640 | 16.974 |
| 6           | 1 2 0          | 0.675 | 0.814 | 1.025 | 1.211 | 1.388 | 2.410 | 9.089 | 17.424 |
| 7           | 1 2 1          | 0.695 | 0.706 | 0.884 | 1.053 | 1.224 | 2.229 | 8.898 | 17.231 |

LAMBDA : 0 1 1 2 1 1 0

| NO. MISSING | NO. MISSING IN | 0.50  | 1.00  | 2.00  | 3.00  | 4.00  | 10.00 | 50.00 | 100.00 |
|-------------|----------------|-------|-------|-------|-------|-------|-------|-------|--------|
| 0           | 0 0 0          | 0.237 | 0.324 | 0.494 | 0.662 | 0.829 | 1.830 | 8.497 | 16.831 |
| 1           | 0 1 0          | 0.293 | 0.368 | 0.565 | 0.736 | 0.905 | 1.910 | 8.580 | 16.914 |
| 2           | 1 0 0          | 0.287 | 0.378 | 0.550 | 0.719 | 0.887 | 1.890 | 8.558 | 16.891 |
| 3           | 0 1 0          | 0.284 | 0.374 | 0.545 | 0.713 | 0.881 | 1.882 | 8.550 | 16.894 |
| 4           | 1 1 0          | 0.401 | 0.515 | 0.708 | 0.887 | 1.060 | 2.074 | 8.750 | 17.084 |
| 5           | 1 0 0          | 0.377 | 0.475 | 0.653 | 0.824 | 0.993 | 1.998 | 8.667 | 17.001 |
| 6           | 1 1 1          | 0.379 | 0.478 | 0.655 | 0.826 | 0.994 | 1.999 | 8.668 | 17.002 |
| 7           | 1 0 1          | 0.377 | 0.475 | 0.653 | 0.824 | 0.993 | 1.998 | 8.667 | 17.001 |
| 8           | 1 1 0          | 0.675 | 0.814 | 1.025 | 1.211 | 1.388 | 2.410 | 9.089 | 17.424 |
| 9           | 1 0 0          | 0.605 | 0.706 | 0.884 | 1.055 | 1.224 | 2.229 | 8.898 | 17.331 |
| 10          | 1 1 1          | 0.675 | 0.814 | 1.025 | 1.211 | 1.388 | 2.410 | 9.089 | 17.424 |

| LAMBDA :    | 0              | 2  | 0  | 2 | 0 | 2 | 0 |
|-------------|----------------|----|----|---|---|---|---|
| NO. MISSING | NO. MISSING IN |    |    |   |   |   |   |
|             | L4             | L5 | L6 |   |   |   |   |
| 0           | 0              | 0  | 0  | 0 | 0 | 0 | 0 |
| 1           | 0              | 0  | 1  | 0 | 0 | 2 | 0 |
| 11          | 1              | 0  | 0  | 0 | 0 | 0 | 0 |
| 12          | 1              | 0  | 0  | 0 | 0 | 0 | 0 |
| 22          | 1              | 0  | 0  | 0 | 0 | 0 | 0 |
| 23          | 1              | 0  | 0  | 0 | 0 | 0 | 0 |
| 33          | 1              | 0  | 0  | 0 | 0 | 0 | 0 |

| LAMBDA :    | 0.50           | 1.00  | 2.00  | 3.00  | 4.00  | 10.00 | 50.00 | 100.00 |
|-------------|----------------|-------|-------|-------|-------|-------|-------|--------|
| NO. MISSING | NO. MISSING IN |       |       |       | GAMMA |       |       |        |
|             | L4             | L5    | L6    |       |       |       |       |        |
| 0           | 0.235          | 0.321 | 0.489 | 0.656 | 0.823 | 1.824 | 8.491 | 16.824 |
| 1           | 0.287          | 0.378 | 0.550 | 0.719 | 0.887 | 1.890 | 8.558 | 16.891 |
| 11          | 0.287          | 0.378 | 0.550 | 0.719 | 0.887 | 1.890 | 8.558 | 16.891 |
| 12          | 0.401          | 0.515 | 0.708 | 0.887 | 1.060 | 2.074 | 8.750 | 17.084 |
| 22          | 0.379          | 0.478 | 0.655 | 0.826 | 0.994 | 1.999 | 8.668 | 17.084 |
| 23          | 0.401          | 0.515 | 0.708 | 0.887 | 1.060 | 2.074 | 8.668 | 17.084 |
| 33          | 0.675          | 0.814 | 1.025 | 1.211 | 1.388 | 2.410 | 9.089 | 17.424 |
|             | 0.675          | 0.814 | 1.025 | 1.211 | 1.388 | 2.410 | 9.089 | 17.424 |

| LAMBDA :    | 0.50           | 1.00  | 2.00  | 3.00  | 4.00  | 10.00 | 50.00 | 100.00 |
|-------------|----------------|-------|-------|-------|-------|-------|-------|--------|
| NO. MISSING | NO. MISSING IN |       |       |       | GAMMA |       |       |        |
|             | L4             | L5    | L6    |       |       |       |       |        |
| 0           | 0.238          | 0.325 | 0.494 | 0.662 | 0.829 | 1.830 | 8.497 | 16.831 |
| 1           | 0.286          | 0.378 | 0.545 | 0.719 | 0.887 | 1.889 | 8.557 | 16.884 |
| 11          | 0.286          | 0.378 | 0.550 | 0.719 | 0.887 | 1.889 | 8.557 | 16.884 |
| 12          | 0.377          | 0.475 | 0.653 | 0.824 | 0.993 | 1.998 | 8.667 | 17.001 |
| 22          | 0.379          | 0.478 | 0.655 | 0.826 | 0.994 | 1.999 | 8.648 | 17.001 |
| 23          | 0.368          | 0.461 | 0.633 | 0.802 | 0.970 | 1.972 | 8.640 | 16.974 |
| 33          | 0.377          | 0.475 | 0.653 | 0.824 | 0.993 | 1.998 | 8.647 | 17.001 |
|             | 0.675          | 0.814 | 1.025 | 1.211 | 1.388 | 2.410 | 9.089 | 17.424 |
|             | 0.675          | 0.806 | 1.025 | 1.211 | 1.388 | 2.249 | 8.898 | 17.424 |
|             | 0.675          | 0.814 | 1.025 | 1.211 | 1.388 | 2.410 | 9.089 | 17.424 |

| LAMBDA :    | 0.50           | 1.00  | 2.00  | 3.00  | 4.00  | 10.00 | 50.00 | 100.00 |
|-------------|----------------|-------|-------|-------|-------|-------|-------|--------|
| NO. MISSING | NO. MISSING IN |       |       |       | GAMMA |       |       |        |
|             | L4             | L5    | L6    |       |       |       |       |        |
| 0           | 0.237          | 0.324 | 0.494 | 0.662 | 0.829 | 1.830 | 8.497 | 16.831 |
| 1           | 0.287          | 0.374 | 0.545 | 0.719 | 0.887 | 1.889 | 8.557 | 16.884 |
| 11          | 0.287          | 0.378 | 0.530 | 0.719 | 0.887 | 1.889 | 8.557 | 16.884 |
| 12          | 0.293          | 0.388 | 0.565 | 0.736 | 0.905 | 1.910 | 8.580 | 17.014 |
| 22          | 0.377          | 0.475 | 0.653 | 0.824 | 0.993 | 1.998 | 8.667 | 17.001 |
| 23          | 0.379          | 0.478 | 0.655 | 0.826 | 0.994 | 1.999 | 8.668 | 17.001 |
| 33          | 0.377          | 0.475 | 0.653 | 0.824 | 0.993 | 1.998 | 8.667 | 17.001 |
|             | 0.401          | 0.515 | 0.708 | 0.887 | 1.060 | 2.074 | 8.750 | 17.084 |
|             | 0.675          | 0.814 | 1.025 | 1.211 | 1.388 | 2.410 | 9.089 | 17.424 |
|             | 0.675          | 0.706 | 1.025 | 1.055 | 1.211 | 2.249 | 8.898 | 17.424 |
|             | 0.675          | 0.814 | 1.025 | 1.211 | 1.388 | 2.410 | 9.089 | 17.424 |

LAMBDA : 2 0 0 0 2 2 0

| NO. MISSING | NO. MISSING IN |    |    | NO. MISSING IN |       |       | GAMMA | 10.00 | 50.00 | 100.00 |
|-------------|----------------|----|----|----------------|-------|-------|-------|-------|-------|--------|
|             | L4             | L5 | L6 | L4             | L5    | L6    |       |       |       |        |
| 0           | 0              | 0  | 0  | 0.243          | 0.333 | 0.505 | 0.674 | 0.842 | 1.045 | 8.513  |
| 1           | 0              | 0  | 1  | 0.286          | 0.378 | 0.550 | 0.719 | 0.887 | 1.089 | 8.557  |
| 2           | 1              | 0  | 0  | 0.293          | 0.388 | 0.565 | 0.736 | 0.905 | 1.100 | 8.580  |
| 3           | 1              | 0  | 2  | 0.368          | 0.461 | 0.633 | 0.802 | 0.970 | 1.172 | 8.610  |
| 4           | 2              | 0  | 0  | 0.377          | 0.475 | 0.653 | 0.824 | 0.993 | 1.198 | 16.974 |
| 5           | 2              | 0  | 1  | 0.401          | 0.515 | 0.708 | 0.887 | 1.060 | 1.274 | 17.001 |
| 6           | 2              | 0  | 2  | 0.605          | 0.706 | 0.884 | 1.055 | 1.224 | 2.229 | 8.598  |
| 7           | 2              | 0  | 1  | 0.675          | 0.814 | 1.025 | 1.211 | 1.388 | 2.410 | 9.089  |
| 8           | 2              | 0  | 2  | 0              | 0     | 0     | 0     | 0     | 0     | 17.424 |

LAMBDA : 0 1 2 2 1 0 1

| NO. MISSING | NO. MISSING IN |    |    | NO. MISSING IN |       |       | GAMMA | 10.00 | 50.00  | 100.00  |
|-------------|----------------|----|----|----------------|-------|-------|-------|-------|--------|---------|
|             | L4             | L5 | L6 | L4             | L5    | L6    |       |       |        |         |
| 0           | 0              | 0  | 0  | 0.237          | 0.319 | 0.470 | 0.617 | 0.763 | 1.024  | 7.342   |
| 1           | 0              | 1  | 0  | 0.299          | 0.396 | 0.564 | 0.719 | 0.869 | 1.142  | 7.466   |
| 2           | 1              | 0  | 0  | 0.287          | 0.373 | 0.529 | 0.678 | 0.824 | 1.088  | 7.406   |
| 3           | 1              | 1  | 0  | 0.416          | 0.543 | 0.742 | 0.914 | 1.075 | 1.972  | 14.859  |
| 4           | 2              | 0  | 0  | 0.391          | 0.495 | 0.668 | 0.825 | 0.976 | 1.849  | 7.574   |
| 5           | 2              | 1  | 0  | 0.907          | 1.407 | 2.407 | 3.407 | 4.407 | 10.407 | 100.407 |

LAMBDA : 0 2 1 2 0 1 1

| NO. MISSING | NO. MISSING IN |    |    | NO. MISSING IN |       |       | GAMMA | 10.00 | 50.00  | 100.00  |
|-------------|----------------|----|----|----------------|-------|-------|-------|-------|--------|---------|
|             | L4             | L5 | L6 | L4             | L5    | L6    |       |       |        |         |
| 0           | 0              | 0  | 0  | 0.233          | 0.312 | 0.460 | 0.606 | 0.750 | 1.010  | 7.326   |
| 1           | 0              | 0  | 1  | 0.299          | 0.396 | 0.564 | 0.719 | 0.869 | 1.142  | 7.466   |
| 2           | 1              | 0  | 0  | 0.288          | 0.375 | 0.530 | 0.679 | 0.825 | 1.088  | 7.407   |
| 3           | 1              | 1  | 0  | 0.416          | 0.543 | 0.742 | 0.914 | 1.075 | 1.972  | 14.859  |
| 4           | 2              | 0  | 0  | 0.416          | 0.543 | 0.742 | 0.914 | 1.075 | 1.972  | 14.859  |
| 5           | 2              | 0  | 1  | 0.907          | 1.407 | 2.407 | 3.407 | 4.407 | 10.407 | 100.407 |

LAMBDA : 1 0 2 1 2 0 1

| NO. MISSING IN |   |   |   |   |   |   | GAMMA |       |       |       |       |        |        |
|----------------|---|---|---|---|---|---|-------|-------|-------|-------|-------|--------|--------|
| L4 L5 L6       |   |   |   |   |   |   | 0.50  | 1.00  | 2.00  | 3.00  | 4.00  | 10.00  | 50.00  |
| 0              | 0 | 0 | 0 | 0 | 0 | 0 | 0.233 | 0.312 | 0.460 | 0.605 | 0.749 | 1.609  | 7.325  |
| 1              | 0 | 0 | 1 | 0 | 0 | 1 | 0.287 | 0.373 | 0.529 | 0.678 | 0.824 | 1.688  | 14.468 |
| 1              | 1 | 0 | 0 | 0 | 0 | 0 | 0.282 | 0.365 | 0.517 | 0.663 | 0.808 | 1.670  | 14.549 |
| 2              | 0 | 1 | 0 | 2 | 0 | 0 | 0.416 | 0.543 | 0.742 | 0.914 | 1.075 | 1.972  | 14.530 |
| 2              | 2 | 1 | 1 | 0 | 0 | 0 | 0.391 | 0.495 | 0.668 | 0.825 | 0.976 | 1.849  | 14.659 |
| 3              | 1 | 1 | 2 | 0 | 0 | 0 | 0.907 | 1.407 | 2.407 | 3.407 | 4.407 | 10.407 | 14.718 |

LAMBDA : 1 1 1 1 1 1 1

| NO. MISSING IN |   |   |   |   |   |   | GAMMA |       |       |       |       |        |        |
|----------------|---|---|---|---|---|---|-------|-------|-------|-------|-------|--------|--------|
| L4 L5 L6       |   |   |   |   |   |   | 0.50  | 1.00  | 2.00  | 3.00  | 4.00  | 10.00  | 50.00  |
| 0              | 0 | 0 | 0 | 0 | 0 | 0 | 0.232 | 0.309 | 0.456 | 0.601 | 0.745 | 1.604  | 7.320  |
| 1              | 0 | 0 | 1 | 0 | 0 | 1 | 0.287 | 0.373 | 0.529 | 0.678 | 0.824 | 1.688  | 14.463 |
| 1              | 1 | 0 | 0 | 0 | 0 | 0 | 0.288 | 0.375 | 0.530 | 0.679 | 0.825 | 1.688  | 14.549 |
| 1              | 1 | 1 | 0 | 0 | 0 | 0 | 0.287 | 0.373 | 0.529 | 0.678 | 0.824 | 1.688  | 14.550 |
| 2              | 0 | 1 | 0 | 1 | 0 | 1 | 0.416 | 0.543 | 0.742 | 0.914 | 1.075 | 1.972  | 14.549 |
| 2              | 2 | 1 | 1 | 0 | 1 | 1 | 0.391 | 0.495 | 0.668 | 0.825 | 0.976 | 1.849  | 14.659 |
| 3              | 1 | 1 | 1 | 1 | 0 | 1 | 0.907 | 1.407 | 2.407 | 3.407 | 4.407 | 10.407 | 14.718 |

LAMBDA : 1 2 0 1 0 2 1

| NO. MISSING IN |   |   |   |   |   |   | GAMMA |       |       |       |       |        |        |
|----------------|---|---|---|---|---|---|-------|-------|-------|-------|-------|--------|--------|
| L4 L5 L6       |   |   |   |   |   |   | 0.50  | 1.00  | 2.00  | 3.00  | 4.00  | 10.00  | 50.00  |
| 0              | 0 | 0 | 0 | 0 | 0 | 0 | 0.233 | 0.312 | 0.460 | 0.606 | 0.750 | 1.610  | 7.326  |
| 1              | 0 | 0 | 1 | 0 | 0 | 1 | 0.288 | 0.375 | 0.530 | 0.679 | 0.825 | 1.688  | 14.469 |
| 1              | 1 | 0 | 0 | 0 | 0 | 0 | 0.299 | 0.396 | 0.564 | 0.719 | 0.869 | 1.742  | 14.530 |
| 2              | 0 | 1 | 0 | 2 | 0 | 2 | 0.416 | 0.543 | 0.742 | 0.914 | 1.075 | 1.972  | 14.610 |
| 2              | 2 | 1 | 1 | 0 | 1 | 1 | 0.416 | 0.543 | 0.742 | 0.914 | 1.075 | 1.972  | 14.666 |
| 3              | 1 | 1 | 1 | 1 | 0 | 2 | 0.907 | 1.407 | 2.407 | 3.407 | 4.407 | 10.407 | 14.712 |

50.407

100.407

LAMBDA : 2 0 1 0 2 1 1

NO.MISSING IN  
L4 L5 L6

| NO.MISSING                | 0     | 1     | 0     | 1     | 0     | 2      | 1      | 1       |
|---------------------------|-------|-------|-------|-------|-------|--------|--------|---------|
| NO.MISSING IN<br>L4 L5 L6 | 0.50  | 1.00  | 2.00  | 3.00  | 4.00  | 10.00  | 50.00  | 100.00  |
| 0                         | 0.233 | 0.312 | 0.460 | 0.605 | 0.749 | 1.609  | 7.325  | 14.468  |
| 1                         | 0.282 | 0.365 | 0.517 | 0.663 | 0.808 | 1.670  | 7.386  | 14.530  |
| 2                         | 0.287 | 0.373 | 0.529 | 0.678 | 0.824 | 1.688  | 7.406  | 14.549  |
| 3                         | 0.391 | 0.495 | 0.668 | 0.825 | 0.976 | 1.849  | 7.574  | 14.718  |
| 0                         | 0.416 | 0.543 | 0.742 | 0.914 | 1.075 | 1.972  | 7.712  | 14.859  |
| 1                         | 0.907 | 1.407 | 2.407 | 3.107 | 4.407 | 10.407 | 50.407 | 100.407 |

LAMBDA : 2 1 0 0 1 2 1

NO.MISSING IN  
L4 L5 L6

| NO.MISSING                | 0     | 0     | 0     | 0     | 1     | 0      | 2      | 1       |
|---------------------------|-------|-------|-------|-------|-------|--------|--------|---------|
| NO.MISSING IN<br>L4 L5 L6 | 0.50  | 1.00  | 2.00  | 3.00  | 4.00  | 10.00  | 50.00  | 100.00  |
| 0                         | 0.237 | 0.319 | 0.470 | 0.617 | 0.763 | 1.624  | 7.342  | 14.485  |
| 1                         | 0.287 | 0.373 | 0.529 | 0.678 | 0.824 | 1.688  | 7.406  | 14.549  |
| 2                         | 0.299 | 0.396 | 0.564 | 0.719 | 0.869 | 1.742  | 7.466  | 14.610  |
| 3                         | 0.391 | 0.495 | 0.668 | 0.825 | 0.976 | 1.849  | 7.574  | 14.718  |
| 0                         | 0.416 | 0.543 | 0.742 | 0.914 | 1.075 | 1.972  | 7.712  | 14.859  |
| 1                         | 0.907 | 1.407 | 2.407 | 3.107 | 4.407 | 10.407 | 50.407 | 100.407 |

LAMBDA : 0 2 2 2 0 0 2

NO.MISSING IN  
L4 L5 L6

| NO.MISSING                | 0     | 0     | 0     | 0     | 1     | 0     | 0      | 2      |
|---------------------------|-------|-------|-------|-------|-------|-------|--------|--------|
| NO.MISSING IN<br>L4 L5 L6 | 0.50  | 1.00  | 2.00  | 3.00  | 4.00  | 10.00 | 50.00  | 100.00 |
| 0                         | 0.241 | 0.324 | 0.470 | 0.605 | 0.737 | 1.501 | 6.511  | 12.763 |
| 1                         | 0.307 | 0.411 | 0.585 | 0.736 | 0.879 | 1.669 | 6.698  | 12.952 |
| 2                         | 0.483 | 0.733 | 1.233 | 1.733 | 2.233 | 5.233 | 25.233 | 50.233 |

LAMBDA : 1 1 2 1 1 0 2

NO.MISSING IN  
L4 L5 L6

| NO.MISSING                | 0     | 0     | 0     | 0     | 1     | 0     | 0      | 2      |
|---------------------------|-------|-------|-------|-------|-------|-------|--------|--------|
| NO.MISSING IN<br>L4 L5 L6 | 0.50  | 1.00  | 2.00  | 3.00  | 4.00  | 10.00 | 50.00  | 100.00 |
| 0                         | 0.233 | 0.309 | 0.446 | 0.576 | 0.704 | 1.461 | 6.466  | 12.716 |
| 1                         | 0.307 | 0.411 | 0.585 | 0.736 | 0.879 | 1.669 | 6.698  | 12.952 |
| 2                         | 0.294 | 0.385 | 0.539 | 0.678 | 0.812 | 1.581 | 6.594  | 12.845 |
| 1                         | 0.483 | 0.733 | 1.233 | 1.733 | 2.233 | 5.233 | 25.233 | 50.233 |

LAMBDA : 1 2 1 1 0 1 2

| NO. MISSING | NO. MISSING IN |    |    | GAMMA |       |       | 100.00 |       |       |
|-------------|----------------|----|----|-------|-------|-------|--------|-------|-------|
|             | L4             | L5 | L6 | 0.50  | 1.00  | 2.00  | 3.00   | 4.00  | 50.00 |
| 0           | 0              | 0  | 0  | 0.234 | 0.310 | 0.447 | 0.577  | 0.705 | 1.462 |
| 1           | 0              | 0  | 1  | 0.307 | 0.411 | 0.585 | 0.736  | 0.879 | 1.649 |
| 1           | 1              | 0  | 0  | 0.307 | 0.411 | 0.585 | 0.736  | 0.879 | 1.669 |
| 2           | 1              | 0  | 1  | 0.483 | 0.733 | 1.233 | 1.733  | 2.233 | 5.233 |

LAMBDA : 2 0 2 0 2 0 2

| NO. MISSING | NO. MISSING IN |    |    | GAMMA |       |       | 100.00 |       |       |
|-------------|----------------|----|----|-------|-------|-------|--------|-------|-------|
|             | L4             | L5 | L6 | 0.50  | 1.00  | 2.00  | 3.00   | 4.00  | 50.00 |
| 0           | 0              | 0  | 0  | 0.230 | 0.303 | 0.437 | 0.566  | 0.693 | 1.448 |
| 1           | 0              | 1  | 0  | 0.294 | 0.385 | 0.539 | 0.678  | 0.812 | 1.581 |
| 2           | 0              | 2  | 0  | 0.483 | 0.733 | 1.233 | 1.733  | 2.233 | 5.233 |

LAMBDA : 2 1 1 0 1 1 2

| NO. MISSING | NO. MISSING IN |    |    | GAMMA |       |       | 100.00 |       |       |
|-------------|----------------|----|----|-------|-------|-------|--------|-------|-------|
|             | L4             | L5 | L6 | 0.50  | 1.00  | 2.00  | 3.00   | 4.00  | 50.00 |
| 0           | 0              | 0  | 0  | 0.233 | 0.309 | 0.446 | 0.576  | 0.704 | 1.461 |
| 1           | 0              | 0  | 1  | 0.294 | 0.385 | 0.539 | 0.678  | 0.812 | 1.581 |
| 1           | 0              | 1  | 0  | 0.307 | 0.411 | 0.585 | 0.736  | 0.879 | 1.669 |
| 2           | 0              | 1  | 1  | 0.483 | 0.733 | 1.233 | 1.733  | 2.233 | 5.233 |

LAMBDA : 2 2 0 0 0 2 2

| NO. MISSING | NO. MISSING IN |    |    | GAMMA |       |       | 100.00 |       |       |
|-------------|----------------|----|----|-------|-------|-------|--------|-------|-------|
|             | L4             | L5 | L6 | 0.50  | 1.00  | 2.00  | 3.00   | 4.00  | 50.00 |
| 0           | 0              | 0  | 0  | 0.241 | 0.324 | 0.470 | 0.605  | 0.737 | 1.501 |
| 1           | 0              | 0  | 1  | 0.307 | 0.411 | 0.585 | 0.736  | 0.879 | 1.669 |
| 2           | 0              | 0  | 2  | 0.483 | 0.733 | 1.233 | 1.733  | 2.233 | 5.233 |

| LAMBDA :   |   | 1             | 2 | 2 | 1     | 0     | 0     | 3    |
|------------|---|---------------|---|---|-------|-------|-------|------|
| NO.MISSING |   | NO.MISSING IN |   |   |       |       |       |      |
|            |   | L4 L5 L6      |   |   |       |       |       |      |
| 0          | 0 | 0             | 0 | 0 | 0.246 | 0.333 | 0.483 | 0.00 |
| 1          | 1 | 0             | 0 | 0 | 0.338 | 0.505 | 0.838 | 2.00 |

| LAMBDA :   |   | 2             | 1 | 2 | 0     | 1     | 0     | 3    |
|------------|---|---------------|---|---|-------|-------|-------|------|
| NO.MISSING |   | NO.MISSING IN |   |   |       |       |       |      |
|            |   | L4 L5 L6      |   |   |       |       |       |      |
| 0          | 0 | 0             | 0 | 0 | 0.238 | 0.317 | 0.452 | 0.00 |
| 1          | 0 | 1             | 0 | 0 | 0.338 | 0.505 | 0.838 | 2.00 |

| LAMBDA :   |   | 2             | 2 | 1 | 0     | 0     | 1     | 3    |
|------------|---|---------------|---|---|-------|-------|-------|------|
| NO.MISSING |   | NO.MISSING IN |   |   |       |       |       |      |
|            |   | L4 L5 L6      |   |   |       |       |       |      |
| 0          | 0 | 0             | 0 | 0 | 0.246 | 0.333 | 0.483 | 0.00 |
| 1          | 0 | 0             | 1 | 0 | 0.338 | 0.505 | 0.838 | 2.00 |

| LAMBDA :   |   | 2             | 2 | 2 | 0     | 0     | 0     | 4    |
|------------|---|---------------|---|---|-------|-------|-------|------|
| NO.MISSING |   | NO.MISSING IN |   |   |       |       |       |      |
|            |   | L4 L5 L6      |   |   |       |       |       |      |
| 0          | 0 | 0             | 0 | 0 | 0.264 | 0.389 | 0.639 | 0.00 |

$$R = \frac{4}{\lambda \text{IMBDA STAR}} \cdot \frac{SS}{SS} = \frac{1}{3} \cdot \frac{7}{1} = 7$$

| LAMBDA :       | 0 | 0 | 3 | 3 | 1 | 0 | 0 |
|----------------|---|---|---|---|---|---|---|
| NO. MISSING    | 0 | 1 | 1 | 2 | 2 | 3 | 3 |
| NO. MISSING IN | 0 | 1 | 1 | 2 | 2 | 3 | 3 |
| L4 L5 L6       | 0 | 0 | 1 | 1 | 1 | 2 | 2 |
|                | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| LAMBDA :    | 0              | 1 | 2 | 3 | 0        | 1 | 0 |
|-------------|----------------|---|---|---|----------|---|---|
| NO. MISSING | NO. MISSING IN |   |   |   | L4 L5 L6 |   |   |
| 0           | 1              | 1 | 2 | 3 | 0        | 1 | 0 |
| 0           | 1              | 1 | 2 | N | M        | M | M |

| LAMBDA :       | 1  | 0  | 2  | 2 | 1 | 1 | 0 |
|----------------|----|----|----|---|---|---|---|
| NO. MISSING    |    |    |    |   |   |   |   |
| NO. MISSING IN | L4 | L5 | L6 |   |   |   |   |
|                | 0  | 1  | 0  | 0 | 1 | 1 | 0 |
|                | 0  | 0  | 1  | 0 | 1 | 0 | 1 |
|                | 0  | 0  | 0  | 1 | 0 | 1 | 2 |
|                | 0  | 1  | 1  | 2 | 1 | 2 | 2 |
|                | 0  | 1  | 1  | 1 | 2 | 2 | 2 |
|                | 0  | 1  | 1  | 1 | 2 | 2 | 2 |

$$R = \frac{4}{\lambda \text{IMBDA STAR}} \cdot \frac{SS}{SS} = \frac{1}{3} \cdot \frac{7}{1} = 3$$

| LAMBDA :       | 0 | 0 | 3 | 3 | 1 | 0 | 0 |
|----------------|---|---|---|---|---|---|---|
| NO. MISSING    | 0 | 1 | 1 | 2 | 2 | 3 | 3 |
| NO. MISSING IN | 0 | 1 | 1 | 2 | 2 | 3 | 3 |
| L4 L5 L6       | 0 | 0 | 1 | 1 | 1 | 2 | 2 |
|                | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| LAMBDA :    | 0              | 1 | 2 | 3 | 0        | 1 | 0 |
|-------------|----------------|---|---|---|----------|---|---|
| NO. MISSING | NO. MISSING IN |   |   |   | L4 L5 L6 |   |   |
| 0           | 1              | 1 | 2 | 3 | 0        | 1 | 0 |
| 0           | 1              | 1 | 2 | N | M        | M | M |

| LAMBDA :       | 1  | 0  | 2  | 2 | 1 | 1 | 0 |
|----------------|----|----|----|---|---|---|---|
| NO. MISSING    |    |    |    |   |   |   |   |
| NO. MISSING IN | L4 | L5 | L6 |   |   |   |   |
|                | 0  | 1  | 0  | 0 | 1 | 1 | 0 |
|                | 0  | 0  | 1  | 0 | 1 | 0 | 1 |
|                | 0  | 0  | 0  | 1 | 0 | 1 | 2 |
|                | 0  | 1  | 1  | 2 | 1 | 2 | 2 |
|                | 0  | 1  | 1  | 1 | 2 | 2 | 2 |
|                | 0  | 1  | 1  | 1 | 2 | 2 | 2 |

| 0.50  | 1.00  | 2.00  | 3.00  | GAMMA | 4.00  | 10.00 | 50.00  | 100.00 |
|-------|-------|-------|-------|-------|-------|-------|--------|--------|
| 0.245 | 0.331 | 0.494 | 0.646 | 0.794 | 1.662 | 7.384 | 14.528 |        |
| 0.307 | 0.414 | 0.595 | 0.758 | 0.914 | 1.801 | 7.536 | 14.681 |        |
| 0.289 | 0.378 | 0.538 | 0.688 | 0.836 | 1.703 | 7.424 | 14.568 |        |
| 0.402 | 0.517 | 0.704 | 0.870 | 1.027 | 1.916 | 7.652 | 14.798 |        |
| 0.372 | 0.462 | 0.619 | 0.769 | 0.915 | 1.780 | 7.499 | 14.643 |        |
| 0.676 | 0.816 | 1.021 | 1.194 | 1.355 | 2.252 | 7.992 | 15.138 |        |
| 0.597 | 0.687 | 0.842 | 0.989 | 1.135 | 1.996 | 7.713 | 14.856 |        |

| 0.50  | 1.00  | 2.00  | 3.00  | GAMMA | 4.00  | 10.00 | 50.00  | 100.00 |
|-------|-------|-------|-------|-------|-------|-------|--------|--------|
| 0.236 | 0.317 | 0.468 | 0.614 | 0.759 | 1.620 | 7.337 | 14.480 | 14.681 |
| 0.307 | 0.414 | 0.595 | 0.758 | 0.914 | 1.801 | 7.536 | 14.528 | 14.528 |
| 0.282 | 0.365 | 0.516 | 0.663 | 0.807 | 1.669 | 7.385 | 14.798 | 14.798 |
| 0.402 | 0.517 | 0.704 | 0.870 | 1.027 | 1.916 | 6.652 | 14.634 | 15.138 |
| 0.463 | 0.618 | 0.766 | 0.912 | 1.774 | 2.491 | 7.992 | 15.138 | 15.138 |
| 0.375 | 0.463 | 0.618 | 0.766 | 1.194 | 1.355 | 2.252 | 7.992  | 7.992  |
| 0.676 | 0.816 | 1.021 | 1.194 | 1.355 | 2.252 | 7.992 | 7.992  | 7.992  |
| 0.676 | 0.816 | 1.021 | 1.194 | 1.355 | 2.252 | 7.992 | 7.992  | 7.992  |

| GAMMA |       | 100.00 |       | 50.00 |       | 10.00 |       | 4.00  |       | 3.00  |       | 2.00  |       | 1.00  |       | 0.50  |      |
|-------|-------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|
| 1.4   | 4.64  | 1.4    | 5.68  | 1.4   | 5.28  | 1.4   | 5.13  | 1.4   | 5.13  | 1.4   | 5.28  | 1.4   | 5.68  | 1.4   | 4.64  | 1.4   | 3.10 |
| 7.321 | 7.424 | 7.385  | 7.385 | 7.370 | 7.370 | 7.352 | 7.352 | 7.499 | 7.499 | 7.491 | 7.491 | 7.499 | 7.499 | 7.992 | 7.992 | 0.887 |      |
| 1.605 | 1.703 | 1.669  | 1.669 | 1.655 | 1.655 | 1.616 | 1.616 | 1.780 | 1.780 | 1.774 | 1.774 | 1.780 | 1.780 | 2.252 | 2.252 | 0.807 |      |
| 0.746 | 0.836 | 0.807  | 0.807 | 0.795 | 0.795 | 0.757 | 0.757 | 0.915 | 0.915 | 0.912 | 0.912 | 0.915 | 0.915 | 1.135 | 1.135 | 0.651 |      |
| 0.602 | 0.688 | 0.663  | 0.663 | 0.651 | 0.651 | 0.619 | 0.619 | 0.766 | 0.766 | 0.764 | 0.764 | 0.769 | 0.769 | 1.194 | 1.194 | 0.516 |      |
| 0.457 | 0.538 | 0.516  | 0.516 | 0.506 | 0.506 | 0.470 | 0.470 | 0.619 | 0.619 | 0.618 | 0.618 | 0.619 | 0.619 | 1.021 | 1.021 | 0.358 |      |
| 0.310 | 0.378 | 0.365  | 0.365 | 0.358 | 0.358 | 0.322 | 0.322 | 0.462 | 0.462 | 0.463 | 0.463 | 0.462 | 0.462 | 0.842 | 0.842 | 0.289 |      |
| 0.232 | 0.289 | 0.282  | 0.282 | 0.278 | 0.278 | 0.242 | 0.242 | 0.372 | 0.372 | 0.375 | 0.375 | 0.372 | 0.372 | 0.887 | 0.887 | 0.232 |      |
| 0.194 | 0.252 | 0.252  | 0.252 | 0.252 | 0.252 | 0.222 | 0.222 | 0.355 | 0.355 | 0.355 | 0.355 | 0.355 | 0.355 | 1.194 | 1.194 | 0.816 |      |
| 0.153 | 0.194 | 0.194  | 0.194 | 0.194 | 0.194 | 0.162 | 0.162 | 0.299 | 0.299 | 0.299 | 0.299 | 0.299 | 0.299 | 0.996 | 0.996 | 0.676 |      |
| 0.118 | 0.153 | 0.153  | 0.153 | 0.153 | 0.153 | 0.122 | 0.122 | 0.252 | 0.252 | 0.252 | 0.252 | 0.252 | 0.252 | 0.773 | 0.773 | 0.676 |      |

LAMBDA : 1 1 1 2 0 2 0

| NO. MISSING | NO. MISSING IN      | L4 L5 L6 | 0.50  | 1.00  | 2.00  | 3.00  | 4.00  | 10.00 | 50.00  | 100.00 |
|-------------|---------------------|----------|-------|-------|-------|-------|-------|-------|--------|--------|
| 0           | 0 0 0               | 0.230    | 0.306 | 0.453 | 0.597 | 0.740 | 1.599 | 7.314 | 14.457 | 14.457 |
| 1           | 0 1 0               | 0.282    | 0.365 | 0.516 | 0.663 | 0.807 | 1.669 | 7.385 | 14.528 | 14.528 |
| 2           | 0 1 0 0 0 2         | 0.282    | 0.365 | 0.516 | 0.663 | 0.807 | 1.669 | 7.385 | 14.528 | 14.528 |
| 3           | 1 1 2 2 2 2 2 2 2 2 | 0.402    | 0.517 | 0.704 | 0.870 | 1.027 | 1.916 | 7.652 | 14.798 | 14.798 |
| 4           | 0 3 7 5             | 0.375    | 0.463 | 0.618 | 0.766 | 0.912 | 1.774 | 7.491 | 14.634 | 14.634 |
| 5           | 0 4 0 2             | 0.402    | 0.517 | 0.704 | 0.870 | 1.027 | 1.916 | 7.652 | 14.798 | 14.798 |
| 6           | 0 6 7 6             | 0.676    | 0.816 | 1.021 | 1.194 | 1.355 | 2.252 | 7.992 | 15.138 | 15.138 |

LAMBDA : 2 0 1 1 1 2 0

| NO. MISSING | NO. MISSING IN      | L4 L5 L6 | 0.50  | 1.00  | 2.00  | 3.00  | 4.00  | 10.00 | 50.00  | 100.00 |
|-------------|---------------------|----------|-------|-------|-------|-------|-------|-------|--------|--------|
| 0           | 0 0 0               | 0.232    | 0.310 | 0.457 | 0.602 | 0.746 | 1.605 | 7.321 | 14.464 | 14.464 |
| 1           | 0 1 0 0 0 2         | 0.278    | 0.358 | 0.506 | 0.651 | 0.795 | 1.655 | 7.370 | 14.513 | 14.513 |
| 2           | 1 1 2 2 2 2 2 2 2 2 | 0.289    | 0.365 | 0.516 | 0.663 | 0.807 | 1.669 | 7.385 | 14.528 | 14.528 |
| 3           | 0 3 7 5             | 0.372    | 0.462 | 0.619 | 0.768 | 0.836 | 1.703 | 7.424 | 14.568 | 14.568 |
| 4           | 0 4 0 2             | 0.375    | 0.463 | 0.618 | 0.766 | 0.915 | 1.780 | 7.499 | 14.643 | 14.643 |
| 5           | 0 6 7 6             | 0.377    | 0.463 | 0.619 | 0.766 | 0.912 | 1.774 | 7.491 | 14.634 | 14.634 |
| 6           | 0 5 9 7             | 0.402    | 0.517 | 0.704 | 0.870 | 1.027 | 1.916 | 7.652 | 14.798 | 14.798 |
| 7           | 0 6 7 6             | 0.676    | 0.816 | 1.021 | 1.194 | 1.355 | 2.252 | 7.992 | 15.138 | 15.138 |
| 8           | 0 5 9 7             | 0.597    | 0.687 | 0.842 | 0.989 | 1.155 | 1.996 | 7.713 | 14.856 | 14.856 |
| 9           | 0 6 7 6             | 0.676    | 0.816 | 1.021 | 1.194 | 1.355 | 2.252 | 7.992 | 15.138 | 15.138 |

LAMBDA : 2 1 0 1 0 3 0

| NO. MISSING | NO. MISSING IN      | L4 L5 L6 | 0.50  | 1.00  | 2.00  | 3.00  | 4.00  | 10.00 | 50.00  | 100.00 |
|-------------|---------------------|----------|-------|-------|-------|-------|-------|-------|--------|--------|
| 0           | 0 0 0               | 0.236    | 0.317 | 0.468 | 0.614 | 0.759 | 1.620 | 7.337 | 14.480 | 14.480 |
| 1           | 0 1 0 0 0 2         | 0.282    | 0.365 | 0.516 | 0.663 | 0.807 | 1.669 | 7.385 | 14.528 | 14.528 |
| 2           | 1 1 2 2 2 2 2 2 2 2 | 0.307    | 0.414 | 0.595 | 0.758 | 0.914 | 1.801 | 7.536 | 14.681 | 14.681 |
| 3           | 0 3 7 5             | 0.375    | 0.463 | 0.618 | 0.766 | 0.912 | 1.774 | 7.491 | 14.634 | 14.634 |
| 4           | 0 4 0 2             | 0.402    | 0.517 | 0.704 | 0.870 | 1.027 | 1.916 | 7.652 | 14.798 | 14.798 |
| 5           | 0 6 7 6             | 0.676    | 0.816 | 1.021 | 1.194 | 1.355 | 2.252 | 7.992 | 15.138 | 15.138 |
| 6           | 0 6 7 6             | 0.676    | 0.816 | 1.021 | 1.194 | 1.355 | 2.252 | 7.992 | 15.138 | 15.138 |

LAMBDA : 3 0 0 0 1 3 0

| NO. MISSING IN |       |       |       |       |       |       |
|----------------|-------|-------|-------|-------|-------|-------|
| L4 L5 L6       |       |       |       |       |       |       |
| NO. MISSING    | 0     | 1     | 0     | 1     | 0     | 3     |
| 0              | 0.245 | 0.334 | 0.494 | 0.646 | 0.794 | 1.662 |
| 1              | 0.289 | 0.378 | 0.538 | 0.688 | 0.836 | 1.703 |
| 2              | 0.307 | 0.414 | 0.595 | 0.758 | 0.914 | 1.801 |
| 3              | 0.372 | 0.462 | 0.619 | 0.769 | 0.915 | 1.780 |
| 3              | 0.492 | 0.517 | 0.704 | 0.879 | 1.027 | 1.916 |
| 3              | 0.597 | 0.687 | 0.842 | 0.989 | 1.135 | 1.996 |
| 3              | 0.76  | 0.816 | 1.021 | 1.194 | 1.355 | 2.252 |

LAMBDA : 0 1 3 3 0 0 1

| NO. MISSING IN |       |       |       |       |       |        |
|----------------|-------|-------|-------|-------|-------|--------|
| L4 L5 L6       |       |       |       |       |       |        |
| NO. MISSING    | 0     | 1     | 0     | 0     | 0     | 1      |
| 0              | 0.246 | 0.335 | 0.490 | 0.633 | 0.769 | 1.545  |
| 1              | 0.306 | 0.397 | 0.561 | 0.708 | 0.847 | 1.629  |
| 2              | 0.416 | 0.543 | 0.740 | 0.905 | 1.055 | 1.865  |
| 3              | 0.907 | 1.407 | 2.107 | 3.107 | 4.407 | 10.407 |

LAMBDA : 1 0 3 2 1 0 1

| NO. MISSING IN |       |       |       |       |       |        |
|----------------|-------|-------|-------|-------|-------|--------|
| L4 L5 L6       |       |       |       |       |       |        |
| NO. MISSING    | 0     | 1     | 0     | 0     | 1     | 0      |
| 0              | 0.235 | 0.312 | 0.452 | 0.584 | 0.713 | 1.473  |
| 1              | 0.300 | 0.397 | 0.561 | 0.708 | 0.847 | 1.629  |
| 2              | 0.284 | 0.365 | 0.507 | 0.640 | 0.770 | 1.530  |
| 2              | 0.416 | 0.543 | 0.740 | 0.905 | 1.055 | 1.865  |
| 3              | 0.388 | 0.487 | 0.645 | 0.785 | 0.919 | 1.687  |
| 3              | 0.907 | 1.407 | 2.107 | 3.107 | 4.407 | 10.407 |

LAMBDA : 1 1 2 2 0 1 1

| NO. MISSING IN |       |       |       |       |       |        |
|----------------|-------|-------|-------|-------|-------|--------|
| L4 L5 L6       |       |       |       |       |       |        |
| NO. MISSING    | 0     | 1     | 0     | 0     | 1     | 1      |
| 0              | 0.231 | 0.303 | 0.437 | 0.565 | 0.693 | 1.447  |
| 1              | 0.300 | 0.397 | 0.561 | 0.708 | 0.847 | 1.629  |
| 1              | 0.286 | 0.364 | 0.507 | 0.639 | 0.768 | 1.526  |
| 2              | 0.416 | 0.543 | 0.740 | 0.905 | 1.055 | 1.865  |
| 2              | 0.416 | 0.543 | 0.740 | 0.905 | 1.055 | 1.865  |
| 3              | 0.907 | 1.407 | 2.107 | 3.107 | 4.407 | 10.407 |

LAMBDA : 2 0 2 1 1 1 1

| NO. MISSING | NO. MISSING IN |    |    |   | GAMMA | 10.00 | 50.00 | 100.00 |
|-------------|----------------|----|----|---|-------|-------|-------|--------|
|             | L4             | L5 | L6 |   |       |       |       |        |
| 0           | 0              | 0  | 0  | 0 | 0.228 | 0.299 | 0.430 | 0.557  |
| 1           | 0              | 0  | 1  | 0 | 0.284 | 0.365 | 0.507 | 0.640  |
| 2           | 0              | 1  | 0  | 0 | 0.286 | 0.366 | 0.507 | 0.639  |
| 3           | 0              | 1  | 0  | 1 | 0.284 | 0.365 | 0.507 | 0.640  |
| 4           | 0              | 1  | 1  | 0 | 0.487 | 0.747 | 0.749 | 0.905  |
| 5           | 0              | 1  | 1  | 1 | 0.388 | 0.543 | 0.645 | 0.785  |
| 6           | 0              | 1  | 1  | 1 | 0.416 | 0.543 | 0.740 | 0.905  |
| 7           | 0              | 1  | 1  | 1 | 0.407 | 1.407 | 2.407 | 3.407  |

LAMBDA : 2 1 1 0 2 1

| NO. MISSING | NO. MISSING IN |    |    |   | GAMMA | 10.00 | 50.00 | 100.00 |
|-------------|----------------|----|----|---|-------|-------|-------|--------|
|             | L4             | L5 | L6 |   |       |       |       |        |
| 0           | 0              | 0  | 0  | 0 | 0.231 | 0.303 | 0.437 | 0.565  |
| 1           | 0              | 0  | 1  | 0 | 0.286 | 0.366 | 0.507 | 0.639  |
| 2           | 0              | 1  | 0  | 0 | 0.300 | 0.397 | 0.561 | 0.708  |
| 3           | 0              | 1  | 0  | 1 | 0.416 | 0.543 | 0.740 | 0.905  |
| 4           | 0              | 1  | 1  | 0 | 0.416 | 0.543 | 0.740 | 0.905  |
| 5           | 0              | 1  | 1  | 1 | 0.907 | 1.407 | 2.407 | 3.407  |

LAMBDA : 3 0 1 0 1 2 1

| NO. MISSING | NO. MISSING IN |    |    |   | GAMMA | 10.00 | 50.00 | 100.00 |
|-------------|----------------|----|----|---|-------|-------|-------|--------|
|             | L4             | L5 | L6 |   |       |       |       |        |
| 0           | 0              | 0  | 0  | 0 | 0.235 | 0.312 | 0.452 | 0.584  |
| 1           | 0              | 0  | 1  | 0 | 0.284 | 0.365 | 0.507 | 0.640  |
| 2           | 0              | 1  | 0  | 2 | 0.300 | 0.397 | 0.561 | 0.708  |
| 3           | 0              | 1  | 1  | 2 | 0.388 | 0.487 | 0.645 | 0.785  |
| 4           | 0              | 1  | 1  | 2 | 0.416 | 0.543 | 0.740 | 0.905  |
| 5           | 0              | 1  | 2  | 0 | 0.907 | 1.407 | 2.407 | 3.407  |

LAMBDA : 3 1 0 0 0 3 1

| NO. MISSING | NO. MISSING IN |    |    |   | GAMMA | 10.00 | 50.00 | 100.00 |
|-------------|----------------|----|----|---|-------|-------|-------|--------|
|             | L4             | L5 | L6 |   |       |       |       |        |
| 0           | 0              | 0  | 0  | 0 | 0.246 | 0.335 | 0.490 | 0.633  |
| 1           | 0              | 0  | 0  | 1 | 0.300 | 0.397 | 0.561 | 0.708  |
| 2           | 0              | 0  | 0  | 2 | 0.416 | 0.543 | 0.740 | 0.905  |
| 3           | 0              | 0  | 0  | 3 | 0.707 | 1.407 | 2.407 | 3.407  |

LAMBDA : 1 1 3 2 0 0 2

|             |   | NO. MISSING IN<br>L4 L5 L6 |       |       |       |       |       |       |
|-------------|---|----------------------------|-------|-------|-------|-------|-------|-------|
|             |   | 0                          | 1     | 2     | 0     | 0     | 0     | 2     |
| NO. MISSING | 0 | 0.241                      | 0.324 | 0.412 | 0.483 | 0.583 | 0.730 | 0.598 |
|             | 1 | 0.307                      | 0.412 | 0.521 | 0.683 | 0.733 | 1.233 | 0.730 |
|             | 2 | 0.483                      | 0.733 | 1.233 | 1.733 | 1.733 | 2.233 | 1.733 |

LAMBDA : 2 0 3 1 1 0 2

|             |   | NO. MISSING IN<br>L4 L5 L6 |       |       |       |       |       |       |
|-------------|---|----------------------------|-------|-------|-------|-------|-------|-------|
|             |   | 0                          | 1     | 0     | 0     | 1     | 0     | 2     |
| NO. MISSING | 0 | 0.232                      | 0.304 | 0.412 | 0.483 | 0.583 | 0.730 | 0.549 |
|             | 1 | 0.307                      | 0.380 | 0.483 | 0.733 | 0.521 | 0.651 | 0.866 |
|             | 2 | 0.483                      | 0.733 | 1.233 | 1.733 | 1.733 | 2.233 | 0.773 |

LAMBDA : 2 1 2 1 0 1 2

|             |   | NO. MISSING IN<br>L4 L5 L6 |       |       |       |       |       |       |
|-------------|---|----------------------------|-------|-------|-------|-------|-------|-------|
|             |   | 0                          | 1     | 0     | 0     | 1     | 0     | 2     |
| NO. MISSING | 0 | 0.233                      | 0.304 | 0.412 | 0.483 | 0.583 | 0.730 | 0.430 |
|             | 1 | 0.307                      | 0.380 | 0.483 | 0.733 | 0.521 | 0.651 | 0.866 |
|             | 2 | 0.483                      | 0.733 | 1.233 | 1.733 | 1.733 | 2.233 | 0.773 |

LAMBDA : 3 0 2 0 1 1 2

|             |   | NO. MISSING IN<br>L4 L5 L6 |       |       |       |       |       |       |
|-------------|---|----------------------------|-------|-------|-------|-------|-------|-------|
|             |   | 0                          | 1     | 0     | 1     | 1     | 0     | 2     |
| NO. MISSING | 0 | 0.232                      | 0.304 | 0.412 | 0.483 | 0.583 | 0.730 | 0.430 |
|             | 1 | 0.293                      | 0.380 | 0.483 | 0.733 | 0.521 | 0.651 | 0.866 |
|             | 2 | 0.307                      | 0.412 | 0.521 | 0.683 | 0.733 | 1.233 | 0.773 |

| LAMBDA :    | 3              | 1  | 1  | 0 | 0 | 2 | 2 |
|-------------|----------------|----|----|---|---|---|---|
| NO. MISSING | NO. MISSING IN |    |    |   |   |   |   |
|             | L4             | L5 | L6 |   |   |   |   |
| 0           | 0              | 0  | 0  | 0 | 0 | 0 | 0 |
| 1           | 0              | 0  | 1  | 0 | 0 | 0 | 0 |
| 2           | 0              | 0  | 2  | 0 | 0 | 0 | 0 |

| LAMBDA :    | 2              | 1  | 3  | 1 | 0 | 0 | 3 |
|-------------|----------------|----|----|---|---|---|---|
| NO. MISSING | NO. MISSING IN |    |    |   |   |   |   |
|             | L4             | L5 | L6 |   |   |   |   |
| 0           | 0              | 0  | 0  | 0 | 0 | 0 | 0 |
| 1           | 1              | 0  | 0  | 0 | 0 | 0 | 0 |

| LAMBDA :    | 3              | 0  | 3  | 0 | 1 | 0 | 3 |
|-------------|----------------|----|----|---|---|---|---|
| NO. MISSING | NO. MISSING IN |    |    |   |   |   |   |
|             | L4             | L5 | L6 |   |   |   |   |
| 0           | 0              | 0  | 0  | 0 | 0 | 0 | 0 |
| 1           | 0              | 1  | 0  | 0 | 0 | 0 | 0 |

| LAMBDA :    | 3              | 1  | 2  | 0 | 0 | 1 | 3 |
|-------------|----------------|----|----|---|---|---|---|
| NO. MISSING | NO. MISSING IN |    |    |   |   |   |   |
|             | L4             | L5 | L6 |   |   |   |   |
| 0           | 0              | 0  | 0  | 0 | 0 | 0 | 0 |
| 1           | 0              | 0  | 1  | 0 | 0 | 0 | 0 |

| LAMBDA :    | 3              | 1  | 3  | 0 | 0 | 0 | 4 |
|-------------|----------------|----|----|---|---|---|---|
| NO. MISSING | NO. MISSING IN |    |    |   |   |   |   |
|             | L4             | L5 | L6 |   |   |   |   |
| 0           | 0              | 0  | 0  | 0 | 0 | 0 | 0 |
| 1           | 0              | 0  | 1  | 0 | 0 | 0 | 0 |

| LAMBDA :    | 3              | 1  | 1  | 0 | 0 | 2 | 2 |
|-------------|----------------|----|----|---|---|---|---|
| NO. MISSING | NO. MISSING IN |    |    |   |   |   |   |
|             | L4             | L5 | L6 |   |   |   |   |
| 0           | 0              | 0  | 0  | 0 | 0 | 0 | 0 |
| 1           | 0              | 0  | 1  | 0 | 0 | 0 | 0 |
| 2           | 0              | 0  | 2  | 0 | 0 | 0 | 0 |

| LAMBDA :    | 2              | 1  | 3  | 1 | 0 | 0 | 3 |
|-------------|----------------|----|----|---|---|---|---|
| NO. MISSING | NO. MISSING IN |    |    |   |   |   |   |
|             | L4             | L5 | L6 |   |   |   |   |
| 0           | 0              | 0  | 0  | 0 | 0 | 0 | 0 |
| 1           | 1              | 0  | 0  | 0 | 0 | 0 | 0 |
| 2           | 0              | 0  | 1  | 0 | 0 | 0 | 0 |

| LAMBDA :    | 3              | 0  | 3  | 0 | 1 | 0 | 3 |
|-------------|----------------|----|----|---|---|---|---|
| NO. MISSING | NO. MISSING IN |    |    |   |   |   |   |
|             | L4             | L5 | L6 |   |   |   |   |
| 0           | 0              | 0  | 0  | 0 | 0 | 0 | 0 |
| 1           | 0              | 1  | 0  | 0 | 0 | 0 | 0 |
| 2           | 0              | 0  | 2  | 0 | 0 | 0 | 0 |

| LAMBDA :    | 2              | 1  | 3  | 1 | 0 | 0 | 3 |
|-------------|----------------|----|----|---|---|---|---|
| NO. MISSING | NO. MISSING IN |    |    |   |   |   |   |
|             | L4             | L5 | L6 |   |   |   |   |
| 0           | 0              | 0  | 0  | 0 | 0 | 0 | 0 |
| 1           | 1              | 0  | 0  | 0 | 0 | 0 | 0 |
| 2           | 0              | 0  | 1  | 0 | 0 | 0 | 0 |

| LAMBDA :    | 3              | 1  | 3  | 0 | 0 | 0 | 4 |
|-------------|----------------|----|----|---|---|---|---|
| NO. MISSING | NO. MISSING IN |    |    |   |   |   |   |
|             | L4             | L5 | L6 |   |   |   |   |
| 0           | 0              | 0  | 0  | 0 | 0 | 0 | 0 |
| 1           | 0              | 0  | 1  | 0 | 0 | 0 | 0 |
| 2           | 0              | 0  | 2  | 0 | 0 | 0 | 0 |

R = 4 SS = 4 0 8  
LAMBDA STAR : 4 0 8

LAMBDA : 0 0 4 4 0 0 0

| NO. MISSING |   | NO. MISSING IN |   |   | NO. MISSING IN |       |       |
|-------------|---|----------------|---|---|----------------|-------|-------|
| L4 L5 L6    |   | L4 L5 L6       |   |   | L4 L5 L6       |       |       |
| 0           | 0 | 0              | 0 | 0 | 0.264          | 0.389 | 0.639 |
| 1           | 1 | 0              | 0 | 0 | 0.313          | 0.443 | 0.696 |
| 2           | 2 | 0              | 0 | 0 | 0.408          | 0.546 | 0.805 |
| 3           | 3 | 0              | 0 | 0 | 0.682          | 0.845 | 1.122 |

LAMBDA : 1 0 3 3 0 1 0

| NO. MISSING |   | NO. MISSING IN |   |   | NO. MISSING IN |       |       |
|-------------|---|----------------|---|---|----------------|-------|-------|
| L4 L5 L6    |   | L4 L5 L6       |   |   | L4 L5 L6       |       |       |
| 0           | 0 | 0              | 0 | 0 | 0.234          | 0.311 | 0.451 |
| 1           | 1 | 0              | 0 | 1 | 0.313          | 0.443 | 0.696 |
| 2           | 2 | 0              | 0 | 0 | 0.279          | 0.356 | 0.494 |
| 3           | 3 | 0              | 0 | 0 | 0.408          | 0.546 | 0.805 |
| 4           | 4 | 0              | 0 | 0 | 0.371          | 0.452 | 0.590 |
| 5           | 5 | 0              | 0 | 0 | 0.682          | 0.845 | 1.122 |

LAMBDA : 2 0 2 2 0 2 0

| NO. MISSING |   | NO. MISSING IN |   |   | NO. MISSING IN |       |       |
|-------------|---|----------------|---|---|----------------|-------|-------|
| L4 L5 L6    |   | L4 L5 L6       |   |   | L4 L5 L6       |       |       |
| 0           | 0 | 0              | 0 | 0 | 0.226          | 0.295 | 0.425 |
| 1           | 1 | 0              | 0 | 1 | 0.279          | 0.356 | 0.494 |
| 2           | 2 | 0              | 0 | 0 | 0.408          | 0.546 | 0.452 |
| 3           | 3 | 0              | 0 | 0 | 0.408          | 0.546 | 0.452 |
| 4           | 4 | 0              | 0 | 0 | 0.682          | 0.845 | 1.122 |
| 5           | 5 | 0              | 0 | 0 | 0.682          | 0.845 | 1.122 |

LAMBDA : 3 0 1 1 0 3 0

| NO. MISSING IN<br>L4 L5 L6 |   |   |   |   |  |  |
|----------------------------|---|---|---|---|--|--|
| 0                          | 0 | 0 | 0 |   |  |  |
| 1                          | 0 | 0 | 1 |   |  |  |
| 2                          | 1 | 0 | 0 | 2 |  |  |
| 3                          | 1 | 0 | 0 | 3 |  |  |
| 4                          | 1 | 0 | 0 | 2 |  |  |

| NO. MISSING | GAMMA |       |       |       |       |       |
|-------------|-------|-------|-------|-------|-------|-------|
|             | 3.00  | 4.00  | 5.00  | 6.00  | 7.00  | 8.00  |
| 0           | 0.234 | 0.311 | 0.451 | 0.584 | 0.714 | 1.476 |
| 1           | 0.279 | 0.356 | 0.494 | 0.625 | 0.753 | 1.517 |
| 2           | 0.313 | 0.443 | 0.696 | 0.947 | 1.197 | 2.699 |
| 3           | 0.371 | 0.452 | 0.590 | 0.721 | 0.849 | 1.604 |
| 4           | 0.408 | 0.546 | 0.805 | 1.058 | 1.310 | 2.814 |
| 5           | 0.682 | 0.845 | 1.122 | 1.382 | 1.638 | 3.149 |
| 6           | 0.682 | 0.845 | 1.122 | 1.382 | 1.638 | 3.149 |

LAMBDA : 4 0 0 0 0 4 0

| NO. MISSING IN<br>L4 L5 L6 |   |   |   |  |  |  |
|----------------------------|---|---|---|--|--|--|
| 0                          | 0 | 0 | 0 |  |  |  |
| 1                          | 0 | 0 | 1 |  |  |  |
| 2                          | 0 | 0 | 2 |  |  |  |
| 3                          | 0 | 0 | 3 |  |  |  |

| NO. MISSING | GAMMA |       |       |       |       |       |
|-------------|-------|-------|-------|-------|-------|-------|
|             | 3.00  | 4.00  | 5.00  | 6.00  | 7.00  | 8.00  |
| 0           | 0.264 | 0.389 | 0.639 | 0.889 | 1.139 | 2.639 |
| 1           | 0.313 | 0.443 | 0.696 | 0.947 | 1.197 | 2.699 |
| 2           | 0.408 | 0.546 | 0.805 | 1.058 | 1.310 | 2.814 |
| 3           | 0.682 | 0.845 | 1.122 | 1.382 | 1.638 | 3.149 |

LAMBDA : 1 0 4 3 0 0 1

| NO. MISSING IN<br>L4 L5 L6 |   |   |   |  |  |  |
|----------------------------|---|---|---|--|--|--|
| 0                          | 0 | 0 | 0 |  |  |  |
| 1                          | 1 | 0 | 0 |  |  |  |
| 2                          | 2 | 0 | 0 |  |  |  |
| 3                          | 3 | 0 | 0 |  |  |  |

| NO. MISSING | GAMMA |       |       |       |       |        |
|-------------|-------|-------|-------|-------|-------|--------|
|             | 3.00  | 4.00  | 5.00  | 6.00  | 7.00  | 8.00   |
| 0           | 0.250 | 0.352 | 0.555 | 0.756 | 0.954 | 2.157  |
| 1           | 0.303 | 0.413 | 0.621 | 0.825 | 1.027 | 2.231  |
| 2           | 0.418 | 0.555 | 0.790 | 1.006 | 1.216 | 2.437  |
| 3           | 0.907 | 1.407 | 2.107 | 3.407 | 4.407 | 10.407 |

LAMBDA : 2 0 3 2 0 1 1

| NO. MISSING IN<br>L4 L5 L6 |   |   |   |   |  |  |
|----------------------------|---|---|---|---|--|--|
| 0                          | 0 | 0 | 0 |   |  |  |
| 1                          | 0 | 1 | 0 | 0 |  |  |
| 2                          | 1 | 1 | 0 | 0 |  |  |
| 3                          | 2 | 0 | 1 | 0 |  |  |

| NO. MISSING | GAMMA |       |       |       |       |        |
|-------------|-------|-------|-------|-------|-------|--------|
|             | 3.00  | 4.00  | 5.00  | 6.00  | 7.00  | 8.00   |
| 0           | 0.229 | 0.297 | 0.421 | 0.538 | 0.653 | 1.328  |
| 1           | 0.303 | 0.413 | 0.621 | 0.825 | 1.027 | 2.231  |
| 2           | 0.283 | 0.360 | 0.488 | 0.607 | 0.723 | 1.384  |
| 3           | 0.118 | 0.555 | 0.790 | 1.006 | 1.216 | 2.437  |
| 4           | 0.418 | 0.555 | 0.790 | 1.006 | 1.216 | 2.437  |
| 5           | 0.907 | 1.407 | 2.107 | 3.407 | 4.407 | 10.407 |

100.00

100.00

100.00

100.00

100.00

100.00

100.00

100.00

100.00

100.00

100.00

100.00

100.00

100.00

L'EMBBA : 3 0 2 1 0 2 1

NO. MISSING IN

NU. MISSING L4 L5 L6

SHONAN  
GOOGOOG  
SHONAN

LAMBDA :: 4 0 1 0 0 3 1

NO. MISSING IN

L<sub>8</sub> 0 12NM  
L<sub>9</sub> 0 0000  
L<sub>10</sub> 0 0000

Legend: 

NO. 160, MARCH 1910.

L4 L5 L6

LAMBDA : 3 0 3 1 0 1 2

NO. MISSING IN  
L4 L5 L6

0101  
0000  
0011

|       |       |       | GAMMA |       |        |        |
|-------|-------|-------|-------|-------|--------|--------|
| 0.50  | 1.00  | 2.00  | 3.00  | 4.00  | 10.00  | 50.00  |
| 0.229 | 0.297 | 0.421 | 0.538 | 0.653 | 1.328  | 5.778  |
| 0.283 | 0.360 | 0.488 | 0.607 | 0.723 | 1.399  | 5.849  |
| 0.303 | 0.413 | 0.621 | 0.825 | 1.027 | 2.231  | 10.233 |
| 0.418 | 0.555 | 0.790 | 1.006 | 1.216 | 2.437  | 10.450 |
| 0.418 | 0.555 | 0.790 | 1.006 | 1.216 | 2.437  | 10.450 |
| 0.407 | 0.507 | 0.707 | 0.907 | 1.107 | 2.407  | 10.407 |
| 0.907 | 1.407 | 2.107 | 3.107 | 4.407 | 10.407 | 50.407 |

|       |       |       | GAMMA | 4.00  | 10.00  | 50.00  | 100.00  |
|-------|-------|-------|-------|-------|--------|--------|---------|
| 0.50  | 1.00  | 2.00  | 3.00  | 4.00  | 10.00  | 50.00  | 100.00  |
| 0.250 | 0.352 | 0.555 | 0.756 | 0.956 | 2.157  | 10.158 | 20.158  |
| 0.303 | 0.413 | 0.621 | 0.825 | 1.027 | 2.231  | 10.233 | 20.234  |
| 0.418 | 0.555 | 0.790 | 1.006 | 1.216 | 2.437  | 10.450 | 20.452  |
| 0.907 | 1.407 | 2.407 | 3.407 | 4.407 | 10.407 | 50.407 | 100.407 |

|       |       | GAMMA |       | 50.00 | 100.00 |
|-------|-------|-------|-------|-------|--------|
| 0.50  | 1.00  | 2.00  | 3.00  | 4.00  | 10.00  |
| 0.243 | 0.334 | 0.508 | 0.677 | 0.846 | 1.849  |
| 0.11  | 0.11  | 0.613 | 0.794 | 0.969 | 1.988  |
| 0.308 | 0.308 | 0.733 | 1.733 | 2.233 | 5.233  |
| 0.483 | 0.733 |       |       |       | 25.233 |

|       |       | BANHHA |       |       |       |       |
|-------|-------|--------|-------|-------|-------|-------|
|       |       | 1.00   | 2.00  | 3.00  | 4.00  | 10.00 |
| 0.50  | 1.00  | 0.417  | 0.525 | 0.630 | 1.241 | 5.247 |
|       | 2.00  | 0.418  | 0.613 | 0.794 | 0.969 | 1.988 |
| 0.231 | 0.300 | 0.417  | 0.525 | 0.630 | 1.241 | 5.247 |
|       | 0.308 | 0.418  | 0.613 | 0.794 | 0.969 | 1.988 |
| 0.118 | 0.308 | 0.418  | 0.613 | 0.794 | 0.969 | 1.988 |
|       | 0.733 | 0.483  | 1.233 | 1.733 | 2.233 | 5.233 |

LAMBDA : 4 0 2 0 0 2 2

|            |   | NO.MISSING IN |    |       | GAMMA |       |       |
|------------|---|---------------|----|-------|-------|-------|-------|
|            |   | L4            | L5 | L6    | 7.00  | 4.00  | 10.00 |
| NO.MISSING | 0 | 0             | 0  | 0     | 0.50  | 1.00  | 2.00  |
| 1          | 0 | 0             | 1  | 0     | 0.243 | 0.334 | 0.508 |
| 2          | 0 | 0             | 2  | 0     | 0.308 | 0.118 | 0.613 |
|            |   |               |    | 0.483 | 0.733 | 1.233 | 1.733 |

LAMBDA : 4 0 3 0 1 0 3

|            |   | NO.MISSING IN |    |       | GAMMA |       |       |
|------------|---|---------------|----|-------|-------|-------|-------|
|            |   | L4            | L5 | L6    | 3.00  | 4.00  | 10.00 |
| NO.MISSING | 0 | 0             | 0  | 0     | 0.50  | 1.00  | 2.00  |
| 1          | 0 | 1             | 0  | 0     | 0.246 | 0.337 | 0.502 |
|            |   |               |    | 0.338 | 0.505 | 0.838 | 1.172 |

LAMBDA : 4 0 3 0 1 3

|            |   | NO.MISSING IN |    |       | GAMMA |       |       |
|------------|---|---------------|----|-------|-------|-------|-------|
|            |   | L4            | L5 | L6    | 3.00  | 4.00  | 10.00 |
| NO.MISSING | 0 | 0             | 0  | 0     | 0.50  | 1.00  | 2.00  |
| 1          | 0 | 0             | 1  | 0     | 0.246 | 0.337 | 0.502 |
|            |   |               |    | 0.338 | 0.505 | 0.838 | 1.172 |

LAMBDA : 4 0 4 0 0 0 4

|            |   | NO.MISSING IN |    |    | GAMMA |       |       |
|------------|---|---------------|----|----|-------|-------|-------|
|            |   | L4            | L5 | L6 | 3.00  | 4.00  | 10.00 |
| NO.MISSING | 0 | 0             | 0  | 0  | 0.50  | 1.00  | 2.00  |
| 1          | 0 | 0             | 0  | 1  | 0.264 | 0.389 | 0.639 |

Appendix 3: Values of  $\bar{C}$  for Two Year

Designs ,  $R = 2, 3, 4, 5.$

The table entry is the value of

$$\bar{C} = \sum_v f_v C_v ,$$

where the sum is taken over all possible replacement designs under replacement strategy I for the design under study (c.f., Section 4). The value of  $\bar{C}$  is computed using the indicated variance component ratio  $\gamma$  and probability of segment loss  $p.$

R = 2

| LAMBDA STAR : |       | 0 2 0 |       | 3.00  |  | GAMMA 4.00 |       | 10.00  |        | 50.00  |  | 100.00 |       |       |
|---------------|-------|-------|-------|-------|--|------------|-------|--------|--------|--------|--|--------|-------|-------|
| PROB          |       | 0.50  | 1.00  | 2.00  |  | 1.757      | 2.228 | 5.049  | 23.850 | 47.350 |  | 0.20   | 0.029 |       |
| 0.10          | 0.576 | 0.814 | 1.286 | 1.757 |  | 2.146      | 4.828 | 22.696 | 45.029 | 43.372 |  | 0.30   | 0.027 |       |
| 0.20          | 0.570 | 0.798 | 1.249 | 1.698 |  | 2.087      | 4.670 | 21.872 | 43.372 | 42.378 |  | 0.40   | 0.026 |       |
| 0.30          | 0.566 | 0.788 | 1.223 | 1.656 |  | 2.052      | 4.575 | 21.377 | 42.378 | 42.046 |  | 0.50   | 0.025 |       |
| 0.40          | 0.564 | 0.781 | 1.207 | 1.630 |  | 2.040      | 4.544 | 21.212 | 42.046 | 41.944 |  | 0.60   | 0.024 |       |
| 0.50          | 0.563 | 0.779 | 1.202 | 1.622 |  | 2.037      | 4.575 | 21.377 | 42.378 | 42.378 |  | 0.70   | 0.023 |       |
| 0.60          | 0.564 | 0.781 | 1.207 | 1.630 |  | 2.052      | 4.670 | 21.872 | 43.372 | 43.372 |  | 0.80   | 0.022 |       |
| 0.70          | 0.566 | 0.788 | 1.223 | 1.656 |  | 2.087      | 4.828 | 22.696 | 45.029 | 45.029 |  | 0.80   | 0.021 |       |
| 0.80          | 0.570 | 0.798 | 1.249 | 1.698 |  | 2.146      | 5.049 | 23.850 | 47.350 | 47.350 |  | 0.90   | 0.020 |       |
| 0.90          | 0.576 | 0.814 | 1.286 | 1.757 |  | 2.228      |       |        |        |        |  |        | 0.90  | 0.019 |
| LAMBDA STAR : |       | 1 1 1 |       | 3.00  |  | GAMMA 4.00 |       | 10.00  |        | 50.00  |  | 100.00 |       |       |
| PROB          |       | 0.50  | 1.00  | 2.00  |  | 1.452      | 1.806 | 3.912  | 17.916 | 35.416 |  | 0.20   | 0.024 |       |
| 0.10          | 0.546 | 0.735 | 1.097 | 1.495 |  | 1.864      | 4.070 | 18.740 | 37.974 | 38.731 |  | 0.30   | 0.023 |       |
| 0.20          | 0.550 | 0.746 | 1.123 | 1.537 |  | 1.923      | 4.228 | 19.564 | 40.389 | 40.389 |  | 0.40   | 0.022 |       |
| 0.30          | 0.554 | 0.757 | 1.150 | 1.579 |  | 1.981      | 4.384 | 21.212 | 42.046 | 42.046 |  | 0.50   | 0.021 |       |
| 0.40          | 0.559 | 0.768 | 1.176 | 1.622 |  | 2.040      | 4.544 | 22.037 | 43.703 | 43.703 |  | 0.60   | 0.020 |       |
| 0.50          | 0.563 | 0.779 | 1.202 | 1.664 |  | 2.099      | 4.702 | 22.861 | 43.361 | 43.361 |  | 0.70   | 0.019 |       |
| 0.60          | 0.567 | 0.790 | 1.223 | 1.706 |  | 2.157      | 4.859 | 23.685 | 47.018 | 47.018 |  | 0.80   | 0.018 |       |
| 0.70          | 0.571 | 0.801 | 1.255 | 1.781 |  | 2.216      | 5.017 | 23.685 | 47.018 | 47.018 |  | 0.80   | 0.017 |       |
| 0.80          | 0.575 | 0.812 | 1.281 | 1.791 |  | 2.275      | 5.175 | 24.509 | 48.676 | 48.676 |  | 0.90   | 0.016 |       |
| 0.90          | 0.579 | 0.822 | 1.307 |       |  |            |       |        |        |        |  |        | 0.90  | 0.015 |

R = 3

| LAMBDA STAR : |       | 0 3 0 |       | 3.00  |       | GAMMA 4.00 |        | 10.00  |        | 50.00  |        | 100.00 |        | 100.00 |        |
|---------------|-------|-------|-------|-------|-------|------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| PROB          |       | 0.50  |       | 1.00  |       | 2.00       |        | 3.00   |        | 4.00   |        | 10.00  |        | 50.00  |        |
| 0.10          | 0.383 | 0.539 | 0.850 | 1.160 | 1.470 | 3.328      | 15.708 | 31.182 | 31.182 | 14.673 | 29.100 | 31.182 | 31.182 | 29.100 | 31.182 |
| 0.20          | 0.377 | 0.524 | 0.818 | 1.108 | 1.397 | 3.130      | 13.828 | 27.397 | 27.397 | 13.828 | 27.397 | 27.397 | 27.397 | 27.397 | 27.397 |
| 0.30          | 0.374 | 0.515 | 0.792 | 1.066 | 1.339 | 2.971      | 13.216 | 26.163 | 26.163 | 13.216 | 26.163 | 26.163 | 26.163 | 26.163 | 26.163 |
| 0.40          | 0.371 | 0.509 | 0.775 | 1.037 | 1.298 | 2.856      | 12.882 | 25.486 | 25.486 | 12.882 | 25.486 | 25.486 | 25.486 | 25.486 | 25.486 |
| 0.50          | 0.370 | 0.506 | 0.766 | 1.023 | 1.277 | 2.795      | 12.795 | 25.455 | 25.455 | 12.795 | 25.455 | 25.455 | 25.455 | 25.455 | 25.455 |
| 0.60          | 0.371 | 0.506 | 0.768 | 1.024 | 1.278 | 2.795      | 12.868 | 26.158 | 26.158 | 12.868 | 26.158 | 26.158 | 26.158 | 26.158 | 26.158 |
| 0.70          | 0.373 | 0.512 | 0.780 | 1.043 | 1.304 | 2.863      | 13.218 | 27.683 | 27.683 | 13.218 | 27.683 | 27.683 | 27.683 | 27.683 | 27.683 |
| 0.80          | 0.377 | 0.521 | 0.803 | 1.081 | 1.358 | 3.007      | 13.976 | 30.119 | 30.119 | 13.976 | 30.119 | 30.119 | 30.119 | 30.119 | 30.119 |
| 0.90          | 0.382 | 0.536 | 0.839 | 1.140 | 1.440 | 3.236      | 15.185 |        |        | 15.185 |        |        |        |        |        |
| LAMBDA STAR : |       | 1 2 1 |       | 3.00  |       | GAMMA 4.00 |        | 10.00  |        | 50.00  |        | 100.00 |        | 100.00 |        |
| PROB          |       | 0.50  |       | 1.00  |       | 2.00       |        | 3.00   |        | 4.00   |        | 10.00  |        | 50.00  |        |
| 0.10          | 0.365 | 0.494 | 0.743 | 0.988 | 1.232 | 2.686      | 12.362 | 24.454 | 24.454 | 12.362 | 24.454 | 24.454 | 24.454 | 24.454 | 24.454 |
| 0.20          | 0.366 | 0.494 | 0.740 | 0.982 | 1.221 | 2.651      | 12.147 | 24.014 | 24.014 | 12.147 | 24.014 | 24.014 | 24.014 | 24.014 | 24.014 |
| 0.30          | 0.366 | 0.495 | 0.742 | 0.983 | 1.223 | 2.648      | 12.112 | 23.937 | 23.937 | 12.112 | 23.937 | 23.937 | 23.937 | 23.937 | 23.937 |
| 0.40          | 0.371 | 0.499 | 0.749 | 0.993 | 1.235 | 2.678      | 12.256 | 24.223 | 24.223 | 12.256 | 24.223 | 24.223 | 24.223 | 24.223 | 24.223 |
| 0.50          | 0.370 | 0.504 | 0.760 | 1.011 | 1.260 | 2.742      | 12.579 | 24.871 | 24.871 | 12.579 | 24.871 | 24.871 | 24.871 | 24.871 | 24.871 |
| 0.60          | 0.372 | 0.511 | 0.776 | 1.037 | 1.296 | 2.838      | 13.082 | 25.883 | 25.883 | 13.082 | 25.883 | 25.883 | 25.883 | 25.883 | 25.883 |
| 0.70          | 0.376 | 0.519 | 0.797 | 1.071 | 1.343 | 2.968      | 13.765 | 27.257 | 27.257 | 13.765 | 27.257 | 27.257 | 27.257 | 27.257 | 27.257 |
| 0.80          | 0.379 | 0.529 | 0.823 | 1.113 | 1.403 | 3.131      | 14.627 | 28.994 | 28.994 | 14.627 | 28.994 | 28.994 | 28.994 | 28.994 | 28.994 |
| 0.90          | 0.384 | 0.542 | 0.854 | 1.164 | 1.473 | 3.327      | 15.668 | 31.093 | 31.093 | 15.668 | 31.093 | 31.093 | 31.093 | 31.093 | 31.093 |
| LAMBDA STAR : |       | 2 1 2 |       | 3.00  |       | GAMMA 4.00 |        | 10.00  |        | 50.00  |        | 100.00 |        | 100.00 |        |
| PROB          |       | 0.50  |       | 1.00  |       | 2.00       |        | 3.00   |        | 4.00   |        | 10.00  |        | 50.00  |        |
| 0.10          | 0.365 | 0.489 | 0.719 | 0.941 | 1.159 | 2.450      | 10.991 | 21.659 | 21.659 | 10.991 | 21.659 | 21.659 | 21.659 | 21.659 | 21.659 |
| 0.20          | 0.368 | 0.496 | 0.738 | 0.972 | 1.203 | 2.573      | 11.446 | 22.280 | 22.280 | 11.446 | 22.280 | 22.280 | 22.280 | 22.280 | 22.280 |
| 0.30          | 0.370 | 0.504 | 0.759 | 1.003 | 1.247 | 2.696      | 12.302 | 24.302 | 24.302 | 12.302 | 24.302 | 24.302 | 24.302 | 24.302 | 24.302 |
| 0.40          | 0.373 | 0.511 | 0.776 | 1.035 | 1.291 | 2.819      | 12.957 | 25.624 | 25.624 | 12.957 | 25.624 | 25.624 | 25.624 | 25.624 | 25.624 |
| 0.50          | 0.376 | 0.519 | 0.795 | 1.066 | 1.335 | 2.942      | 13.612 | 26.946 | 26.946 | 13.612 | 26.946 | 26.946 | 26.946 | 26.946 | 26.946 |
| 0.60          | 0.378 | 0.526 | 0.813 | 1.097 | 1.379 | 3.064      | 14.268 | 28.268 | 28.268 | 14.268 | 28.268 | 28.268 | 28.268 | 28.268 | 28.268 |
| 0.70          | 0.381 | 0.533 | 0.832 | 1.128 | 1.423 | 3.187      | 14.923 | 29.590 | 29.590 | 14.923 | 29.590 | 29.590 | 29.590 | 29.590 | 29.590 |
| 0.80          | 0.384 | 0.541 | 0.851 | 1.160 | 1.468 | 3.310      | 15.578 | 30.912 | 30.912 | 15.578 | 30.912 | 30.912 | 30.912 | 30.912 | 30.912 |
| 0.90          | 0.386 | 0.548 | 0.870 | 1.191 | 1.512 | 3.433      | 16.234 | 32.234 | 32.234 | 16.234 | 32.234 | 32.234 | 32.234 | 32.234 | 32.234 |

R = 4

| LAMBDA STAR : |  | 0 4 0 |       | 3.00  |  | GAMMA 4.00 |       | 10.00 |       | 50.00  |        | 100.00 |        |       |  |
|---------------|--|-------|-------|-------|--|------------|-------|-------|-------|--------|--------|--------|--------|-------|--|
| PROB          |  | 0.50  | 1.00  | 2.00  |  | 0.635      | 0.867 | 1.098 | 2.484 | 11.724 | 23.273 | 10.00  |        |       |  |
| 0.10          |  | 0.286 | 0.403 | 0.635 |  | 0.609      | 0.824 | 1.038 | 2.323 | 10.883 | 21.582 | 10.00  |        |       |  |
| 0.20          |  | 0.282 | 0.392 | 0.587 |  | 0.383      | 0.788 | 0.988 | 2.187 | 10.159 | 20.123 | 10.00  |        |       |  |
| 0.30          |  | 0.279 | 0.383 | 0.571 |  | 0.377      | 0.762 | 0.951 | 2.080 | 9.581  | 18.955 | 10.00  |        |       |  |
| 0.40          |  | 0.277 | 0.377 | 0.562 |  | 0.374      | 0.746 | 0.928 | 2.010 | 9.193  | 18.167 | 10.00  |        |       |  |
| 0.50          |  | 0.276 | 0.374 | 0.561 |  | 0.276      | 0.743 | 0.922 | 1.988 | 9.053  | 17.878 | 10.00  |        |       |  |
| 0.60          |  | 0.276 | 0.374 | 0.569 |  | 0.276      | 0.755 | 0.938 | 2.027 | 9.235  | 18.239 | 10.00  |        |       |  |
| 0.70          |  | 0.278 | 0.378 | 0.588 |  | 0.281      | 0.786 | 0.981 | 2.140 | 7.827  | 19.429 | 10.00  |        |       |  |
| 0.80          |  | 0.281 | 0.386 | 0.620 |  | 0.285      | 0.399 | 0.838 | 1.055 | 2.347  | 10.932 | 21.658 | 10.00  |       |  |
| LAMBDA STAR : |  | 1 3 1 |       | 3.00  |  | GAMMA 4.00 |       | 10.00 |       | 50.00  |        | 100.00 |        |       |  |
| PROB          |  | 0.50  | 1.00  | 2.00  |  | 0.570      | 0.762 | 0.953 | 2.098 | 9.715  | 19.236 | 10.00  |        |       |  |
| 0.10          |  | 0.276 | 0.375 | 0.570 |  | 0.275      | 0.560 | 0.745 | 0.929 | 2.025  | 9.311  | 18.417 | 10.00  |       |  |
| 0.20          |  | 0.275 | 0.372 | 0.554 |  | 0.274      | 0.554 | 0.734 | 0.912 | 1.972  | 9.009  | 17.802 | 10.00  |       |  |
| 0.30          |  | 0.274 | 0.370 | 0.551 |  | 0.273      | 0.552 | 0.730 | 0.905 | 1.945  | 8.843  | 17.461 | 10.00  |       |  |
| 0.40          |  | 0.275 | 0.370 | 0.552 |  | 0.275      | 0.556 | 0.735 | 0.909 | 1.951  | 8.849  | 17.466 | 10.00  |       |  |
| 0.50          |  | 0.276 | 0.372 | 0.564 |  | 0.276      | 0.564 | 0.747 | 0.927 | 1.994  | 9.060  | 17.887 | 10.00  |       |  |
| 0.60          |  | 0.277 | 0.376 | 0.579 |  | 0.280      | 0.583 | 0.771 | 0.960 | 2.082  | 9.513  | 18.796 | 10.00  |       |  |
| 0.70          |  | 0.280 | 0.383 | 0.591 |  | 0.283      | 0.601 | 0.804 | 1.009 | 2.219  | 10.242 | 20.265 | 10.00  |       |  |
| 0.80          |  | 0.283 | 0.391 | 0.603 |  | 0.287      | 0.403 | 0.854 | 1.078 | 2.412  | 11.281 | 22.365 | 10.00  |       |  |
| LAMBDA STAR : |  | 2 2 2 |       | 3.00  |  | GAMMA 4.00 |       | 10.00 |       | 50.00  |        | 100.00 |        |       |  |
| PROB          |  | 0.50  | 1.00  | 2.00  |  | 0.536      | 0.736 | 0.903 | 0.869 | 1.854  | 8.387  | 16.548 | 10.00  |       |  |
| 0.10          |  | 0.272 | 0.363 | 0.536 |  | 0.273      | 0.365 | 0.539 | 0.707 | 0.873  | 1.854  | 8.355  | 16.474 | 10.00 |  |
| 0.20          |  | 0.273 | 0.365 | 0.539 |  | 0.274      | 0.368 | 0.545 | 0.715 | 0.883  | 1.877  | 8.450  | 16.459 | 10.00 |  |
| 0.30          |  | 0.274 | 0.372 | 0.554 |  | 0.276      | 0.372 | 0.554 | 0.729 | 0.902  | 1.922  | 8.671  | 17.101 | 10.00 |  |
| 0.40          |  | 0.276 | 0.377 | 0.565 |  | 0.278      | 0.377 | 0.565 | 0.748 | 0.927  | 1.971  | 9.020  | 17.801 | 10.00 |  |
| 0.50          |  | 0.278 | 0.383 | 0.580 |  | 0.280      | 0.383 | 0.580 | 0.771 | 0.960  | 2.080  | 9.496  | 18.758 | 10.00 |  |
| 0.60          |  | 0.282 | 0.390 | 0.597 |  | 0.282      | 0.390 | 0.630 | 0.800 | 1.001  | 2.193  | 10.098 | 19.974 | 10.00 |  |
| 0.70          |  | 0.285 | 0.398 | 0.618 |  | 0.285      | 0.398 | 0.618 | 0.834 | 1.049  | 2.328  | 10.827 | 21.447 | 10.00 |  |
| 0.80          |  | 0.285 | 0.407 | 0.641 |  | 0.288      | 0.407 | 0.641 | 0.873 | 1.104  | 2.486  | 11.684 | 23.178 | 10.00 |  |

LAMBDA STAR : 3 1 3

| PROB | 0.50  | 1.00  | 2.00  | 3.00  | 4.00  | 5.00  | 10.00  | 50.00  | 100.00 |
|------|-------|-------|-------|-------|-------|-------|--------|--------|--------|
| 0.10 | 0.276 | 0.370 | 0.543 | 0.707 | 0.868 | 1.804 | 7.957  | 15.637 |        |
| 0.20 | 0.278 | 0.376 | 0.557 | 0.731 | 0.901 | 1.900 | 8.480  | 16.696 |        |
| 0.30 | 0.279 | 0.381 | 0.571 | 0.754 | 0.934 | 1.996 | 9.004  | 17.755 |        |
| 0.40 | 0.281 | 0.386 | 0.584 | 0.777 | 0.967 | 2.091 | 9.527  | 18.814 |        |
| 0.50 | 0.283 | 0.391 | 0.598 | 0.800 | 1.000 | 2.187 | 10.050 | 19.872 |        |
| 0.60 | 0.285 | 0.396 | 0.612 | 0.824 | 1.034 | 2.283 | 10.574 | 20.931 |        |
| 0.70 | 0.286 | 0.401 | 0.626 | 0.847 | 1.067 | 2.379 | 11.097 | 21.990 |        |
| 0.80 | 0.288 | 0.406 | 0.639 | 0.870 | 1.100 | 2.475 | 11.620 | 23.049 |        |
| 0.90 | 0.290 | 0.412 | 0.653 | 0.893 | 1.133 | 2.571 | 12.143 | 24.108 |        |

GAMMA

८८

L. EMBODIMENT 850

LAMBDA STAR : 1 4 1

| PROB |       | 1.00  | 2.00  | 3.00  | GAMMA | 4.00  | 10.00 | 50.00  | 100.00 |
|------|-------|-------|-------|-------|-------|-------|-------|--------|--------|
| 0.10 | 0.222 | 0.303 | 0.463 | 0.622 | 0.780 | 1.726 | 8.027 | 15.902 | 15.902 |
| 0.20 | 0.220 | 0.299 | 0.452 | 0.603 | 0.753 | 1.650 | 7.618 | 15.075 | 15.362 |
| 0.30 | 0.219 | 0.296 | 0.444 | 0.589 | 0.732 | 1.587 | 7.266 | 14.522 | 13.818 |
| 0.40 | 0.219 | 0.295 | 0.439 | 0.580 | 0.718 | 1.542 | 7.000 | 13.522 | 13.522 |
| 0.50 | 0.220 | 0.296 | 0.439 | 0.577 | 0.714 | 1.521 | 6.857 | 13.575 | 14.102 |
| 0.60 | 0.221 | 0.298 | 0.443 | 0.583 | 0.721 | 1.532 | 6.887 | 14.152 | 15.252 |
| 0.70 | 0.223 | 0.303 | 0.454 | 0.599 | 0.742 | 1.586 | 7.723 | 14.695 | 15.685 |
| 0.80 | 0.225 | 0.310 | 0.471 | 0.628 | 0.782 | 1.695 | 8.685 | 15.872 | 17.197 |
| 0.90 | 0.229 | 0.320 | 0.497 | 0.672 | 0.844 | 1.844 | 9.872 | 17.872 | 17.872 |

LAMBDA STAR :: 2 3 2

| PROB | 0.50  | GAMMA |       |       |       | 50.00 | 100.00 |
|------|-------|-------|-------|-------|-------|-------|--------|
|      |       | 2.00  | 3.00  | 4.00  | 10.00 |       |        |
| 0.10 | 0.218 | 0.293 | 0.435 | 0.575 | 0.715 | 1.544 | 7.054  |
| 0.20 | 0.218 | 0.292 | 0.433 | 0.570 | 0.705 | 1.510 | 6.850  |
| 0.30 | 0.218 | 0.293 | 0.432 | 0.568 | 0.701 | 1.491 | 6.716  |
| 0.40 | 0.219 | 0.294 | 0.435 | 0.570 | 0.704 | 1.490 | 6.682  |
| 0.50 | 0.221 | 0.297 | 0.441 | 0.579 | 0.714 | 1.512 | 6.775  |
| 0.60 | 0.222 | 0.302 | 0.450 | 0.594 | 0.734 | 1.563 | 7.024  |
| 0.70 | 0.224 | 0.307 | 0.464 | 0.616 | 0.765 | 1.645 | 7.456  |
| 0.80 | 0.227 | 0.314 | 0.482 | 0.646 | 0.807 | 1.765 | 8.099  |
| 0.90 | 0.230 | 0.323 | 0.505 | 0.685 | 0.863 | 1.926 | 8.982  |

LAMBDA STAR : 3 2 3

| PROB | 0.50  | 1.00  | 2.00  | 3.00  | GAMMA | 4.00  | 10.00 | 50.00  | 100.00 |
|------|-------|-------|-------|-------|-------|-------|-------|--------|--------|
| 0.10 | 0.218 | 0.290 | 0.424 | 0.553 | 0.679 | 1.427 | 6.362 | 12.525 |        |
| 0.20 | 0.219 | 0.292 | 0.429 | 0.559 | 0.687 | 1.437 | 6.386 | 12.565 |        |
| 0.30 | 0.220 | 0.295 | 0.435 | 0.568 | 0.699 | 1.465 | 6.510 | 12.807 |        |
| 0.40 | 0.221 | 0.299 | 0.443 | 0.581 | 0.717 | 1.510 | 6.732 | 13.249 |        |
| 0.50 | 0.223 | 0.303 | 0.454 | 0.598 | 0.739 | 1.572 | 7.052 | 13.893 |        |
| 0.60 | 0.225 | 0.308 | 0.466 | 0.618 | 0.768 | 1.650 | 7.471 | 14.739 |        |
| 0.70 | 0.227 | 0.314 | 0.480 | 0.642 | 0.801 | 1.746 | 7.989 | 15.786 |        |
| 0.80 | 0.229 | 0.320 | 0.493 | 0.669 | 0.840 | 1.858 | 8.605 | 17.033 |        |
| 0.90 | 0.231 | 0.326 | 0.514 | 0.699 | 0.884 | 1.987 | 9.320 | 18.483 |        |

LAMBDA STAR : 4 1 4

| PROB | 0.50  | 1.00  | 2.00  | 3.00  | GAMMA | 4.00  | 10.00 | 50.00  | 100.00 |
|------|-------|-------|-------|-------|-------|-------|-------|--------|--------|
| 0.10 | 0.222 | 0.300 | 0.440 | 0.572 | 0.699 | 1.438 | 6.251 | 12.253 |        |
| 0.20 | 0.223 | 0.303 | 0.450 | 0.590 | 0.725 | 1.515 | 6.682 | 13.128 |        |
| 0.30 | 0.225 | 0.307 | 0.461 | 0.608 | 0.751 | 1.592 | 7.114 | 14.004 |        |
| 0.40 | 0.226 | 0.311 | 0.471 | 0.626 | 0.777 | 1.670 | 7.545 | 14.880 |        |
| 0.50 | 0.227 | 0.315 | 0.482 | 0.644 | 0.803 | 1.747 | 7.976 | 15.755 |        |
| 0.60 | 0.228 | 0.318 | 0.492 | 0.662 | 0.829 | 1.824 | 8.408 | 16.631 |        |
| 0.70 | 0.230 | 0.322 | 0.502 | 0.680 | 0.855 | 1.901 | 8.839 | 17.507 |        |
| 0.80 | 0.231 | 0.326 | 0.513 | 0.697 | 0.881 | 1.979 | 9.271 | 18.382 |        |
| 0.90 | 0.232 | 0.330 | 0.523 | 0.715 | 0.907 | 2.056 | 9.702 | 19.258 |        |

Appendix 4: Values of  $\bar{C}$  for Three Year

Designs,  $R = 2, 3, 4$ .

The table entry is the value of

$$\bar{C} = \sum_v f_v C_v ,$$

where the sum is taken over all possible replacement designs under replacement strategy I for the design under study. The value of  $\bar{C}$  is computed using the indicated variance component ratio  $\gamma$  and probability of segment loss  $p$ . The three year designs are grouped according to their two year parent design. The value of  $SS$  is the number of segments in the parent design.

R = 2 2 SS = 0 2 0  
LAMBDA STAR : 0 2 0

LAMBDA SEQUENCE :

| PROB | 0.50  | 1.00  | 2.00  | 3.00  | 4.00  | 10.00 | 50.00  | 100.00 |
|------|-------|-------|-------|-------|-------|-------|--------|--------|
| 0.10 | 0.518 | 0.755 | 1.226 | 1.697 | 2.167 | 4.987 | 23.788 | 47.288 |
| 0.20 | 0.511 | 0.737 | 1.186 | 1.633 | 2.080 | 4.761 | 22.629 | 44.962 |
| 0.30 | 0.506 | 0.724 | 1.157 | 1.588 | 2.019 | 4.600 | 21.801 | 43.301 |
| 0.40 | 0.502 | 0.717 | 1.140 | 1.561 | 1.982 | 4.503 | 21.304 | 42.304 |
| 0.50 | 0.501 | 0.714 | 1.134 | 1.552 | 1.969 | 4.471 | 21.139 | 41.972 |
| 0.60 | 0.502 | 0.717 | 1.140 | 1.561 | 1.982 | 4.503 | 21.304 | 42.304 |
| 0.70 | 0.506 | 0.724 | 1.157 | 1.588 | 2.019 | 4.600 | 21.801 | 43.301 |
| 0.80 | 0.511 | 0.737 | 1.186 | 1.633 | 2.080 | 4.761 | 22.629 | 44.962 |
| 0.90 | 0.518 | 0.755 | 1.226 | 1.697 | 2.167 | 4.987 | 23.788 | 47.288 |

LAMBDA SEQUENCE :

| PROB | 0.50  | 1.00  | 2.00  | 3.00  | 4.00  | 10.00 | 50.00  | 100.00 |
|------|-------|-------|-------|-------|-------|-------|--------|--------|
| 0.10 | 0.480 | 0.663 | 1.019 | 1.371 | 1.723 | 3.826 | 17.827 | 35.328 |
| 0.20 | 0.486 | 0.676 | 1.048 | 1.417 | 1.784 | 3.987 | 18.655 | 36.989 |
| 0.30 | 0.491 | 0.688 | 1.076 | 1.462 | 1.846 | 4.148 | 19.483 | 38.650 |
| 0.40 | 0.496 | 0.701 | 1.105 | 1.507 | 1.908 | 4.310 | 20.311 | 40.311 |
| 0.50 | 0.501 | 0.714 | 1.134 | 1.552 | 1.969 | 4.471 | 21.139 | 41.972 |
| 0.60 | 0.507 | 0.727 | 1.163 | 1.597 | 2.031 | 4.632 | 21.966 | 43.633 |
| 0.70 | 0.512 | 0.739 | 1.191 | 1.642 | 2.093 | 4.794 | 22.794 | 45.294 |
| 0.80 | 0.517 | 0.752 | 1.220 | 1.687 | 2.154 | 4.955 | 23.622 | 46.956 |
| 0.90 | 0.522 | 0.765 | 1.249 | 1.733 | 2.216 | 5.116 | 24.450 | 48.617 |

R = 2 SS = 1 1 1  
LAMBDA STAR : 0 0 1 1 0 0

| PROB | 0.50  | 1.00  | 2.00  | 3.00  | GAMMA | 4.00  | 10.00  | 50.00  | 100.00 |
|------|-------|-------|-------|-------|-------|-------|--------|--------|--------|
| 0.10 | 0.483 | 0.660 | 0.995 | 1.321 | 1.645 | 3.573 | 16.378 | 32.378 | 31.724 |
| 0.20 | 0.483 | 0.658 | 0.988 | 1.309 | 1.627 | 3.517 | 16.054 | 31.730 | 31.397 |
| 0.30 | 0.483 | 0.660 | 0.991 | 1.313 | 1.631 | 3.522 | 16.062 | 31.730 | 31.725 |
| 0.40 | 0.486 | 0.665 | 1.003 | 1.332 | 1.657 | 3.589 | 16.396 | 32.397 | 33.725 |
| 0.50 | 0.489 | 0.674 | 1.025 | 1.367 | 1.706 | 3.717 | 17.057 | 33.714 | 35.714 |
| 0.60 | 0.494 | 0.687 | 1.057 | 1.418 | 1.776 | 3.906 | 18.046 | 38.363 | 39.363 |
| 0.70 | 0.500 | 0.704 | 1.098 | 1.484 | 1.868 | 4.157 | 19.362 | 41.674 | 41.674 |
| 0.80 | 0.508 | 0.725 | 1.148 | 1.567 | 1.983 | 4.469 | 21.097 | 45.645 | 45.645 |
| 0.90 | 0.517 | 0.749 | 1.208 | 1.664 | 2.119 | 4.843 | 22.978 |        |        |

| PROB | 0.50  | 1.00  | 2.00  | 3.00  | GAMMA | 4.00  | 10.00  | 50.00  | 100.00 |
|------|-------|-------|-------|-------|-------|-------|--------|--------|--------|
| 0.10 | 0.473 | 0.644 | 0.974 | 1.299 | 1.621 | 3.548 | 16.352 | 32.352 | 31.714 |
| 0.20 | 0.476 | 0.649 | 0.977 | 1.298 | 1.616 | 3.506 | 16.046 | 31.733 | 31.733 |
| 0.30 | 0.480 | 0.656 | 0.989 | 1.311 | 1.631 | 3.523 | 16.065 | 32.410 | 32.410 |
| 0.40 | 0.485 | 0.666 | 1.007 | 1.338 | 1.664 | 3.599 | 16.408 | 33.744 | 33.744 |
| 0.50 | 0.490 | 0.678 | 1.033 | 1.378 | 1.718 | 3.733 | 17.076 | 35.736 | 35.736 |
| 0.60 | 0.497 | 0.693 | 1.067 | 1.431 | 1.791 | 3.925 | 18.088 | 38.385 | 38.385 |
| 0.70 | 0.503 | 0.711 | 1.109 | 1.498 | 1.883 | 4.176 | 19.384 | 41.692 | 41.692 |
| 0.80 | 0.511 | 0.731 | 1.157 | 1.578 | 1.995 | 4.485 | 21.024 | 45.656 | 45.656 |
| 0.90 | 0.519 | 0.753 | 1.214 | 1.671 | 2.127 | 4.852 | 22.989 |        |        |

| PROB | 0.50  | 1.00  | 2.00  | 3.00  | GAMMA | 4.00  | 10.00  | 50.00  | 100.00 |
|------|-------|-------|-------|-------|-------|-------|--------|--------|--------|
| 0.10 | 0.483 | 0.660 | 0.995 | 1.321 | 1.645 | 3.573 | 16.378 | 32.378 | 31.724 |
| 0.20 | 0.483 | 0.658 | 0.988 | 1.309 | 1.627 | 3.517 | 16.056 | 31.730 | 31.730 |
| 0.30 | 0.483 | 0.660 | 0.991 | 1.313 | 1.631 | 3.522 | 16.062 | 31.730 | 32.397 |
| 0.40 | 0.486 | 0.665 | 1.003 | 1.332 | 1.657 | 3.589 | 16.396 | 32.397 | 33.725 |
| 0.50 | 0.489 | 0.674 | 1.025 | 1.367 | 1.706 | 3.717 | 17.057 | 33.714 | 35.714 |
| 0.60 | 0.494 | 0.687 | 1.057 | 1.418 | 1.776 | 3.906 | 18.046 | 38.363 | 38.363 |
| 0.70 | 0.500 | 0.704 | 1.098 | 1.484 | 1.868 | 4.157 | 19.362 | 41.674 | 41.674 |
| 0.80 | 0.508 | 0.725 | 1.148 | 1.567 | 1.983 | 4.469 | 21.097 | 45.645 | 45.645 |
| 0.90 | 0.517 | 0.749 | 1.208 | 1.664 | 2.119 | 4.843 | 22.978 |        |        |

LAMBDA SEQUENCE :

| PROB | 0.50  | 1.00  | 2.00  | 3.00  | GAMMA | 4.00  | 10.00  | 50.00  | 100.00 |
|------|-------|-------|-------|-------|-------|-------|--------|--------|--------|
| 0.10 | 0.487 | 0.660 | 0.973 | 1.267 | 1.554 | 3.230 | 14.248 | 28.000 |        |
| 0.20 | 0.491 | 0.673 | 1.007 | 1.324 | 1.634 | 3.458 | 15.473 | 30.476 |        |
| 0.30 | 0.496 | 0.686 | 1.041 | 1.381 | 1.715 | 3.685 | 16.699 | 32.951 |        |
| 0.40 | 0.500 | 0.700 | 1.075 | 1.437 | 1.795 | 3.913 | 17.925 | 35.426 |        |
| 0.50 | 0.505 | 0.713 | 1.108 | 1.494 | 1.876 | 4.140 | 19.159 | 37.901 |        |
| 0.60 | 0.509 | 0.726 | 1.142 | 1.551 | 1.956 | 4.368 | 20.376 | 40.377 |        |
| 0.70 | 0.514 | 0.739 | 1.176 | 1.608 | 2.037 | 4.595 | 21.601 | 42.852 |        |
| 0.80 | 0.519 | 0.752 | 1.210 | 1.664 | 2.117 | 4.823 | 22.827 | 45.327 |        |
| 0.90 | 0.523 | 0.765 | 1.244 | 1.721 | 2.197 | 5.050 | 24.052 | 47.803 |        |

LAMBDA SEQUENCE :

| PROB | 0.50  | 1.00  | 2.00  | 3.00  | GAMMA | 4.00  | 10.00  | 50.00  | 100.00 |
|------|-------|-------|-------|-------|-------|-------|--------|--------|--------|
| 0.10 | 0.468 | 0.623 | 0.914 | 1.196 | 1.475 | 3.134 | 14.139 | 27.890 |        |
| 0.20 | 0.474 | 0.641 | 0.955 | 1.261 | 1.565 | 3.372 | 15.377 | 30.377 |        |
| 0.30 | 0.481 | 0.658 | 0.995 | 1.326 | 1.654 | 3.610 | 16.614 | 32.865 |        |
| 0.40 | 0.484 | 0.675 | 1.035 | 1.390 | 1.743 | 3.848 | 17.852 | 35.352 |        |
| 0.50 | 0.494 | 0.692 | 1.076 | 1.455 | 1.832 | 4.087 | 19.090 | 37.840 |        |
| 0.60 | 0.501 | 0.709 | 1.116 | 1.519 | 1.921 | 4.325 | 20.327 | 40.327 |        |
| 0.70 | 0.508 | 0.726 | 1.157 | 1.584 | 2.010 | 4.563 | 21.565 | 42.815 |        |
| 0.80 | 0.514 | 0.743 | 1.197 | 1.649 | 2.099 | 4.801 | 22.802 | 45.303 |        |
| 0.90 | 0.521 | 0.761 | 1.237 | 1.713 | 2.189 | 5.040 | 24.040 | 47.790 |        |

LAMBDA SEQUENCE :

| PROB | 0.50  | 1.00  | 2.00  | 3.00  | GAMMA | 4.00  | 10.00  | 50.00  | 100.00 |
|------|-------|-------|-------|-------|-------|-------|--------|--------|--------|
| 0.10 | 0.487 | 0.660 | 0.973 | 1.267 | 1.554 | 3.230 | 14.248 | 28.000 |        |
| 0.20 | 0.491 | 0.673 | 1.007 | 1.324 | 1.634 | 3.458 | 15.473 | 30.476 |        |
| 0.30 | 0.496 | 0.686 | 1.041 | 1.381 | 1.715 | 3.685 | 16.699 | 32.951 |        |
| 0.40 | 0.500 | 0.700 | 1.075 | 1.437 | 1.795 | 3.913 | 17.925 | 35.426 |        |
| 0.50 | 0.505 | 0.713 | 1.108 | 1.494 | 1.876 | 4.140 | 19.159 | 37.901 |        |
| 0.60 | 0.509 | 0.726 | 1.142 | 1.551 | 1.956 | 4.368 | 20.376 | 40.377 |        |
| 0.70 | 0.514 | 0.739 | 1.176 | 1.608 | 2.037 | 4.595 | 21.601 | 42.852 |        |
| 0.80 | 0.519 | 0.752 | 1.210 | 1.664 | 2.117 | 4.823 | 22.827 | 45.327 |        |
| 0.90 | 0.523 | 0.765 | 1.244 | 1.721 | 2.197 | 5.050 | 24.052 | 47.803 |        |

$R = 2^2$   $SS = 4$   
 LAMBDA STAR : 2 0 2

LAMBDA SEQUENCE :

| PROB | 0.50  | 1.00  | 2.00  | 3.00  | GAMMA | 4.00  | 10.00  | 50.00  | 100.00 |
|------|-------|-------|-------|-------|-------|-------|--------|--------|--------|
| 0.10 | 0.520 | 0.758 | 1.231 | 1.702 | 2.172 | 4.993 | 23.794 | 47.294 |        |
| 0.20 | 0.515 | 0.743 | 1.194 | 1.642 | 2.090 | 4.772 | 22.640 | 44.974 |        |
| 0.30 | 0.510 | 0.732 | 1.168 | 1.600 | 2.031 | 4.614 | 21.816 | 43.316 |        |
| 0.40 | 0.508 | 0.725 | 1.152 | 1.575 | 1.996 | 4.520 | 21.322 | 42.322 |        |
| 0.50 | 0.507 | 0.723 | 1.147 | 1.566 | 1.985 | 4.468 | 21.157 | 41.990 |        |
| 0.60 | 0.508 | 0.725 | 1.152 | 1.575 | 1.996 | 4.520 | 21.322 | 42.322 |        |
| 0.70 | 0.510 | 0.732 | 1.168 | 1.600 | 2.031 | 4.614 | 21.816 | 43.316 |        |
| 0.80 | 0.515 | 0.743 | 1.194 | 1.642 | 2.090 | 4.772 | 22.640 | 44.974 |        |
| 0.90 | 0.520 | 0.758 | 1.231 | 1.702 | 2.172 | 4.993 | 23.794 | 47.294 |        |

LAMBDA SEQUENCE :

| PROB | 0.50  | 1.00  | 2.00  | 3.00  | GAMMA | 4.00  | 10.00  | 50.00  | 100.00 |
|------|-------|-------|-------|-------|-------|-------|--------|--------|--------|
| 0.10 | 0.460 | 0.606 | 0.883 | 1.155 | 1.425 | 3.034 | 13.736 | 27.112 |        |
| 0.20 | 0.467 | 0.623 | 0.919 | 1.210 | 1.499 | 3.224 | 14.693 | 29.027 |        |
| 0.30 | 0.474 | 0.640 | 0.958 | 1.269 | 1.579 | 3.429 | 15.732 | 31.107 |        |
| 0.40 | 0.481 | 0.658 | 0.977 | 1.332 | 1.664 | 3.649 | 16.851 | 33.352 |        |
| 0.50 | 0.488 | 0.676 | 1.039 | 1.397 | 1.754 | 3.883 | 18.053 | 35.761 |        |
| 0.60 | 0.496 | 0.695 | 1.083 | 1.467 | 1.849 | 4.133 | 19.335 | 38.335 |        |
| 0.70 | 0.504 | 0.715 | 1.129 | 1.539 | 1.948 | 4.397 | 20.699 | 41.074 |        |
| 0.80 | 0.512 | 0.735 | 1.177 | 1.615 | 2.053 | 4.676 | 22.144 | 43.977 |        |
| 0.90 | 0.520 | 0.756 | 1.226 | 1.695 | 2.163 | 4.969 | 23.670 | 47.045 |        |

LAMBDA SEQUENCE :

| PROB | 0.50  | 1.00  | 2.00  | 3.00  | GAMMA | 4.00  | 10.00  | 50.00  | 100.00 |
|------|-------|-------|-------|-------|-------|-------|--------|--------|--------|
| 0.10 | 0.520 | 0.758 | 1.231 | 1.702 | 2.172 | 4.993 | 23.794 | 47.294 |        |
| 0.20 | 0.515 | 0.743 | 1.194 | 1.642 | 2.090 | 4.772 | 22.640 | 44.974 |        |
| 0.30 | 0.510 | 0.732 | 1.168 | 1.600 | 2.031 | 4.614 | 21.816 | 43.316 |        |
| 0.40 | 0.508 | 0.725 | 1.152 | 1.575 | 1.996 | 4.520 | 21.322 | 42.322 |        |
| 0.50 | 0.507 | 0.723 | 1.147 | 1.566 | 1.985 | 4.488 | 21.157 | 41.990 |        |
| 0.60 | 0.508 | 0.725 | 1.152 | 1.575 | 1.996 | 4.520 | 21.322 | 42.322 |        |
| 0.70 | 0.510 | 0.732 | 1.168 | 1.600 | 2.031 | 4.614 | 21.816 | 43.316 |        |
| 0.80 | 0.515 | 0.743 | 1.194 | 1.642 | 2.090 | 4.772 | 22.640 | 44.974 |        |
| 0.90 | 0.520 | 0.758 | 1.231 | 1.702 | 2.172 | 4.993 | 23.794 | 47.294 |        |

LAMBDA SEQUENCE :

|      | 1     | 2     | 1     | 0     | 0     | 1     |
|------|-------|-------|-------|-------|-------|-------|
| PROB | 0.50  | 1.00  | 2.00  | 3.00  | GAMMA | 4.00  |
| 0.10 | 0.491 | 0.680 | 1.042 | 1.397 | 1.750 | 3.856 |
| 0.20 | 0.495 | 0.691 | 1.068 | 1.439 | 1.809 | 4.014 |
| 0.30 | 0.499 | 0.701 | 1.094 | 1.482 | 1.867 | 4.172 |
| 0.40 | 0.503 | 0.712 | 1.120 | 1.524 | 1.926 | 4.330 |
| 0.50 | 0.507 | 0.723 | 1.147 | 1.566 | 1.985 | 4.488 |
| 0.60 | 0.511 | 0.734 | 1.173 | 1.608 | 2.043 | 4.646 |
| 0.70 | 0.515 | 0.745 | 1.199 | 1.651 | 2.102 | 4.804 |
| 0.80 | 0.520 | 0.756 | 1.225 | 1.693 | 2.160 | 4.962 |
| 0.90 | 0.524 | 0.767 | 1.252 | 1.735 | 2.219 | 5.120 |

LAMBDA SEQUENCE :

|      | 2     | 0     | 1     | 0     | 0     | 1     |
|------|-------|-------|-------|-------|-------|-------|
| PROB | 0.50  | 1.00  | 2.00  | 3.00  | GAMMA | 4.00  |
| 0.10 | 0.491 | 0.680 | 1.042 | 1.397 | 1.750 | 3.856 |
| 0.20 | 0.495 | 0.691 | 1.068 | 1.439 | 1.809 | 4.014 |
| 0.30 | 0.499 | 0.701 | 1.094 | 1.482 | 1.867 | 4.172 |
| 0.40 | 0.503 | 0.712 | 1.120 | 1.524 | 1.926 | 4.330 |
| 0.50 | 0.507 | 0.723 | 1.147 | 1.566 | 1.985 | 4.488 |
| 0.60 | 0.511 | 0.734 | 1.173 | 1.608 | 2.043 | 4.646 |
| 0.70 | 0.515 | 0.745 | 1.199 | 1.651 | 2.102 | 4.804 |
| 0.80 | 0.520 | 0.756 | 1.225 | 1.693 | 2.160 | 4.962 |
| 0.90 | 0.524 | 0.767 | 1.252 | 1.735 | 2.219 | 5.120 |

R = 3    SS = 3  
LAMBDA STAR : 0 3 0

| LAMBDA SEQUENCE : |       | 0 0 0 3 0 0   |       |       |       | 0 1 0 0 2 0 1 |       |        |      | 0 2 0 0 1 0 2 |       |       |        |
|-------------------|-------|---------------|-------|-------|-------|---------------|-------|--------|------|---------------|-------|-------|--------|
|                   | PROB  |               | 0.50  | 1.00  | 2.00  |               | 3.00  | GAMMA  | 4.00 |               | 10.00 | 50.00 | 100.00 |
| 0.10              | 0.344 | 0.500         | 0.810 | 1.120 | 1.429 | 3.286         | 3.666 | 31.140 |      |               |       |       |        |
| 0.20              | 0.337 | 0.484         | 0.774 | 1.063 | 1.352 | 3.084         | 4.626 | 29.053 |      |               |       |       |        |
| 0.30              | 0.332 | 0.472         | 0.746 | 1.019 | 1.291 | 2.921         | 3.777 | 27.346 |      |               |       |       |        |
| 0.40              | 0.329 | 0.463         | 0.726 | 0.987 | 1.247 | 2.803         | 3.162 | 26.108 |      |               |       |       |        |
| 0.50              | 0.328 | 0.460         | 0.717 | 0.971 | 1.224 | 2.739         | 3.824 | 25.429 |      |               |       |       |        |
| 0.60              | 0.328 | 0.460         | 0.718 | 0.972 | 1.225 | 2.738         | 3.809 | 25.396 |      |               |       |       |        |
| 0.70              | 0.331 | 0.466         | 0.730 | 0.992 | 1.252 | 2.808         | 3.161 | 26.100 |      |               |       |       |        |
| 0.80              | 0.336 | 0.478         | 0.756 | 1.033 | 1.308 | 2.955         | 3.922 | 27.629 |      |               |       |       |        |
| 0.90              | 0.343 | 0.495         | 0.797 | 1.097 | 1.396 | 3.190         | 3.139 | 30.072 |      |               |       |       |        |
| LAMBDA SEQUENCE : |       | 0 1 0 0 2 0 1 |       |       |       | 0 2 0 0 1 0 2 |       |        |      | 0 3 0 0 1 0 2 |       |       |        |
|                   | PROB  |               | 0.50  | 1.00  | 2.00  |               | 3.00  | GAMMA  | 4.00 |               | 10.00 | 50.00 | 100.00 |
| 0.10              | 0.322 | 0.447         | 0.692 | 0.936 | 1.178 | 2.631         | 3.06  | 24.397 |      |               |       |       |        |
| 0.20              | 0.322 | 0.446         | 0.688 | 0.928 | 1.166 | 2.593         | 3.088 | 23.955 |      |               |       |       |        |
| 0.30              | 0.323 | 0.448         | 0.690 | 0.929 | 1.167 | 2.589         | 3.051 | 23.876 |      |               |       |       |        |
| 0.40              | 0.325 | 0.451         | 0.697 | 0.939 | 1.180 | 2.619         | 3.194 | 24.161 |      |               |       |       |        |
| 0.50              | 0.327 | 0.457         | 0.709 | 0.958 | 1.205 | 2.683         | 3.519 | 24.811 |      |               |       |       |        |
| 0.60              | 0.331 | 0.465         | 0.727 | 0.985 | 1.243 | 2.782         | 3.024 | 25.824 |      |               |       |       |        |
| 0.70              | 0.335 | 0.475         | 0.750 | 1.022 | 1.293 | 2.915         | 3.710 | 27.202 |      |               |       |       |        |
| 0.80              | 0.340 | 0.487         | 0.778 | 1.067 | 1.356 | 3.082         | 4.576 | 28.943 |      |               |       |       |        |
| 0.90              | 0.345 | 0.502         | 0.812 | 1.122 | 1.431 | 3.283         | 5.624 | 31.049 |      |               |       |       |        |
| LAMBDA SEQUENCE : |       | 0 2 0 0 1 0 2 |       |       |       | 0 3 0 0 1 0 2 |       |        |      | 0 4 0 0 1 0 2 |       |       |        |
|                   | PROB  |               | 0.50  | 1.00  | 2.00  |               | 3.00  | GAMMA  | 4.00 |               | 10.00 | 50.00 | 100.00 |
| 0.10              | 0.321 | 0.439         | 0.662 | 0.880 | 1.096 | 2.382         | 3.508 | 10.919 |      |               |       |       |        |
| 0.20              | 0.324 | 0.447         | 0.683 | 0.914 | 1.143 | 2.635         | 3.635 | 11.578 |      |               |       |       |        |
| 0.30              | 0.328 | 0.456         | 0.704 | 0.948 | 1.190 | 2.761         | 3.237 | 12.237 |      |               |       |       |        |
| 0.40              | 0.331 | 0.465         | 0.725 | 0.982 | 1.237 | 2.887         | 3.897 | 12.897 |      |               |       |       |        |
| 0.50              | 0.334 | 0.474         | 0.746 | 1.016 | 1.284 | 3.013         | 3.556 | 13.556 |      |               |       |       |        |
| 0.60              | 0.338 | 0.483         | 0.767 | 1.050 | 1.331 | 3.013         | 4.215 | 14.215 |      |               |       |       |        |
| 0.70              | 0.341 | 0.492         | 0.79  | 1.083 | 1.378 | 3.140         | 4.874 | 14.874 |      |               |       |       |        |
| 0.80              | 0.345 | 0.501         | 0.810 | 1.117 | 1.425 | 3.266         | 5.333 | 15.533 |      |               |       |       |        |
| 0.90              | 0.348 | 0.510         | 0.831 | 1.151 | 1.472 | 3.392         | 6.193 | 16.193 |      |               |       |       |        |

$R = 3$     $SS = 4$   
 LAMBDA STAR : 1 2 1

LAMBDA SEQUENCE :

| PROB | 0.50  | 1.00  | 2.00  | 3.00  | GAMMA | 4.00  | 10.00  | 50.00  | 100.00 |
|------|-------|-------|-------|-------|-------|-------|--------|--------|--------|
| 0.10 | 0.325 | 0.449 | 0.690 | 0.928 | 1.165 | 2.581 | 12.010 | 23.795 |        |
| 0.20 | 0.322 | 0.442 | 0.672 | 0.899 | 1.124 | 2.469 | 11.410 | 22.584 |        |
| 0.30 | 0.320 | 0.438 | 0.661 | 0.880 | 1.097 | 2.389 | 10.970 | 21.693 |        |
| 0.40 | 0.320 | 0.437 | 0.657 | 0.872 | 1.085 | 2.350 | 10.744 | 21.231 |        |
| 0.50 | 0.322 | 0.439 | 0.662 | 0.878 | 1.092 | 2.362 | 10.784 | 21.305 |        |
| 0.60 | 0.324 | 0.446 | 0.676 | 0.900 | 1.121 | 2.435 | 11.144 | 22.025 |        |
| 0.70 | 0.329 | 0.457 | 0.701 | 0.940 | 1.176 | 2.578 | 11.878 | 23.498 |        |
| 0.80 | 0.335 | 0.472 | 0.738 | 0.999 | 1.258 | 2.800 | 13.039 | 25.833 |        |
| 0.90 | 0.342 | 0.493 | 0.788 | 1.080 | 1.371 | 3.110 | 14.679 | 29.137 |        |

LAMBDA SEQUENCE :

| PROB | 0.50  | 1.00  | 2.00  | 3.00  | GAMMA | 4.00  | 10.00  | 50.00  | 100.00 |
|------|-------|-------|-------|-------|-------|-------|--------|--------|--------|
| 0.10 | 0.320 | 0.442 | 0.681 | 0.918 | 1.155 | 2.570 | 11.999 | 23.783 |        |
| 0.20 | 0.319 | 0.437 | 0.667 | 0.893 | 1.118 | 2.463 | 11.404 | 22.577 |        |
| 0.30 | 0.319 | 0.436 | 0.659 | 0.878 | 1.095 | 2.387 | 10.969 | 21.692 |        |
| 0.40 | 0.320 | 0.437 | 0.658 | 0.873 | 1.086 | 2.352 | 10.747 | 21.234 |        |
| 0.50 | 0.322 | 0.441 | 0.665 | 0.882 | 1.076 | 2.368 | 10.791 | 21.312 |        |
| 0.60 | 0.325 | 0.448 | 0.680 | 0.905 | 1.127 | 2.443 | 11.154 | 22.035 |        |
| 0.70 | 0.330 | 0.460 | 0.706 | 0.946 | 1.182 | 2.586 | 11.888 | 23.508 |        |
| 0.80 | 0.336 | 0.475 | 0.742 | 1.004 | 1.264 | 2.807 | 13.048 | 25.842 |        |
| 0.90 | 0.343 | 0.495 | 0.791 | 1.084 | 1.375 | 3.115 | 14.684 | 29.142 |        |

LAMBDA SEQUENCE :

| PROB | 0.50  | 1.00  | 2.00  | 3.00  | GAMMA | 4.00  | 10.00  | 50.00  | 100.00 |
|------|-------|-------|-------|-------|-------|-------|--------|--------|--------|
| 0.10 | 0.325 | 0.449 | 0.690 | 0.928 | 1.165 | 2.581 | 12.010 | 23.795 |        |
| 0.20 | 0.322 | 0.442 | 0.672 | 0.899 | 1.124 | 2.469 | 11.410 | 22.584 |        |
| 0.30 | 0.320 | 0.438 | 0.661 | 0.880 | 1.097 | 2.389 | 10.970 | 21.693 |        |
| 0.40 | 0.320 | 0.437 | 0.657 | 0.872 | 1.085 | 2.350 | 10.744 | 21.231 |        |
| 0.50 | 0.322 | 0.439 | 0.662 | 0.878 | 1.092 | 2.362 | 10.784 | 21.305 |        |
| 0.60 | 0.324 | 0.446 | 0.676 | 0.900 | 1.121 | 2.435 | 11.144 | 22.025 |        |
| 0.70 | 0.329 | 0.457 | 0.701 | 0.940 | 1.176 | 2.578 | 11.878 | 23.498 |        |
| 0.80 | 0.335 | 0.472 | 0.738 | 0.999 | 1.258 | 2.800 | 13.039 | 25.833 |        |
| 0.90 | 0.342 | 0.493 | 0.788 | 1.080 | 1.371 | 3.110 | 14.679 | 29.137 |        |

LAMBDA SEQUENCE : 0 1 1 1 1 0 1

| PROB | 0.50  | 1.00  | 2.00  | 3.00  | 4.00  | 5.00  | 10.00  | 50.00  | 100.00 |
|------|-------|-------|-------|-------|-------|-------|--------|--------|--------|
| 0.10 | 0.316 | 0.425 | 0.632 | 0.832 | 1.031 | 2.209 | 10.027 | 19.794 |        |
| 0.20 | 0.317 | 0.429 | 0.637 | 0.838 | 1.036 | 2.213 | 10.025 | 19.739 |        |
| 0.30 | 0.320 | 0.434 | 0.647 | 0.852 | 1.054 | 2.252 | 10.178 | 20.079 |        |
| 0.40 | 0.322 | 0.441 | 0.661 | 0.874 | 1.084 | 2.326 | 10.517 | 20.814 |        |
| 0.50 | 0.326 | 0.449 | 0.681 | 0.905 | 1.126 | 2.437 | 11.110 | 21.944 |        |
| 0.60 | 0.330 | 0.460 | 0.705 | 0.944 | 1.181 | 2.582 | 11.868 | 23.469 |        |
| 0.70 | 0.335 | 0.472 | 0.735 | 0.992 | 1.247 | 2.763 | 12.822 | 25.389 |        |
| 0.80 | 0.340 | 0.486 | 0.769 | 1.048 | 1.325 | 2.979 | 13.970 | 27.704 |        |
| 0.90 | 0.346 | 0.501 | 0.808 | 1.112 | 1.416 | 3.231 | 15.313 | 30.414 |        |

LAMBDA SEQUENCE : 0 2 0 1 0 1 1

| PROB | 0.50  | 1.00  | 2.00  | 3.00  | 4.00  | 5.00  | 10.00  | 50.00  | 100.00 |
|------|-------|-------|-------|-------|-------|-------|--------|--------|--------|
| 0.10 | 0.315 | 0.424 | 0.630 | 0.830 | 1.029 | 2.209 | 10.025 | 19.793 |        |
| 0.20 | 0.318 | 0.428 | 0.638 | 0.840 | 1.039 | 2.211 | 10.010 | 19.744 |        |
| 0.30 | 0.321 | 0.436 | 0.651 | 0.857 | 1.061 | 2.241 | 10.189 | 20.090 |        |
| 0.40 | 0.324 | 0.444 | 0.667 | 0.882 | 1.093 | 2.338 | 10.560 | 20.828 |        |
| 0.50 | 0.328 | 0.453 | 0.688 | 0.914 | 1.137 | 2.455 | 11.125 | 21.960 |        |
| 0.60 | 0.332 | 0.464 | 0.713 | 0.953 | 1.191 | 2.755 | 11.884 | 23.485 |        |
| 0.70 | 0.337 | 0.476 | 0.741 | 1.000 | 1.256 | 2.775 | 12.836 | 25.404 |        |
| 0.80 | 0.341 | 0.489 | 0.774 | 1.055 | 1.333 | 2.989 | 13.981 | 27.715 |        |
| 0.90 | 0.346 | 0.503 | 0.811 | 1.116 | 1.420 | 3.237 | 15.320 | 30.420 |        |

LAMBDA SEQUENCE : 1 0 1 0 2 0 1

| PROB | 0.50  | 1.00  | 2.00  | 3.00  | 4.00  | 5.00  | 10.00  | 50.00  | 100.00 |
|------|-------|-------|-------|-------|-------|-------|--------|--------|--------|
| 0.10 | 0.313 | 0.420 | 0.624 | 0.823 | 1.020 | 2.196 | 10.012 | 19.779 |        |
| 0.20 | 0.314 | 0.423 | 0.627 | 0.826 | 1.024 | 2.197 | 9.987  | 19.721 |        |
| 0.30 | 0.316 | 0.427 | 0.636 | 0.839 | 1.040 | 2.235 | 10.159 | 20.059 |        |
| 0.40 | 0.319 | 0.434 | 0.651 | 0.861 | 1.070 | 2.309 | 10.526 | 20.793 |        |
| 0.50 | 0.323 | 0.443 | 0.671 | 0.893 | 1.112 | 2.419 | 11.090 | 21.924 |        |
| 0.60 | 0.327 | 0.454 | 0.696 | 0.935 | 1.168 | 2.566 | 11.850 | 23.450 |        |
| 0.70 | 0.332 | 0.467 | 0.727 | 0.982 | 1.236 | 2.749 | 12.806 | 25.373 |        |
| 0.80 | 0.338 | 0.482 | 0.763 | 1.041 | 1.317 | 2.969 | 13.958 | 27.692 |        |
| 0.90 | 0.345 | 0.499 | 0.805 | 1.108 | 1.411 | 3.226 | 15.307 | 30.407 |        |

## LAMBDA SEQUENCE :

|      | 1     | 1     | 0     | 1     | 1     | 1     |
|------|-------|-------|-------|-------|-------|-------|
| PROB | 0.50  |       | 1.70  |       | 2.00  |       |
| 0.10 | 0.316 | 0.425 | 0.632 | 0.832 | 1.031 | 2.209 |
| 0.20 | 0.317 | 0.429 | 0.637 | 0.838 | 1.036 | 2.213 |
| 0.30 | 0.320 | 0.434 | 0.647 | 0.852 | 1.054 | 2.252 |
| 0.40 | 0.322 | 0.441 | 0.661 | 0.874 | 1.084 | 2.326 |
| 0.50 | 0.326 | 0.449 | 0.681 | 0.905 | 1.126 | 2.437 |
| 0.60 | 0.330 | 0.460 | 0.705 | 0.914 | 1.181 | 2.582 |
| 0.70 | 0.335 | 0.472 | 0.735 | 0.992 | 1.247 | 2.763 |
| 0.80 | 0.340 | 0.486 | 0.769 | 1.048 | 1.325 | 2.979 |
| 0.90 | 0.346 | 0.501 | 0.808 | 1.112 | 1.416 | 3.231 |

## LAMBDA SEQUENCE :

|      | 0     | 2     | 1     | 1     | 0     | 0     | 2     |
|------|-------|-------|-------|-------|-------|-------|-------|
| PROB | 0.50  |       | 1.00  |       | 2.00  |       | 3.00  |
| 0.10 | 0.327 | 0.446 | 0.659 | 0.858 | 1.051 | 2.174 | 2.323 |
| 0.20 | 0.330 | 0.454 | 0.680 | 0.894 | 1.103 | 2.372 | 2.472 |
| 0.30 | 0.332 | 0.462 | 0.702 | 0.931 | 1.155 | 2.422 | 2.522 |
| 0.40 | 0.335 | 0.470 | 0.723 | 0.967 | 1.207 | 2.472 | 2.615 |
| 0.50 | 0.338 | 0.478 | 0.745 | 1.003 | 1.259 | 2.559 | 2.771 |
| 0.60 | 0.341 | 0.486 | 0.766 | 1.040 | 1.311 | 2.921 | 3.159 |
| 0.70 | 0.344 | 0.494 | 0.787 | 1.076 | 1.363 | 3.070 | 3.307 |
| 0.80 | 0.346 | 0.502 | 0.809 | 1.112 | 1.415 | 3.220 | 3.445 |
| 0.90 | 0.349 | 0.510 | 0.830 | 1.149 | 1.467 | 3.369 | 3.607 |

## LAMBDA SEQUENCE :

|      | 1     | 1     | 1     | 0     | 1     | 0     | 2     |
|------|-------|-------|-------|-------|-------|-------|-------|
| PROB | 0.50  |       | 1.00  |       | 2.00  |       | 3.00  |
| 0.10 | 0.317 | 0.427 | 0.627 | 0.819 | 1.007 | 2.118 | 2.274 |
| 0.20 | 0.321 | 0.437 | 0.652 | 0.860 | 1.064 | 2.121 | 2.429 |
| 0.30 | 0.325 | 0.447 | 0.677 | 0.900 | 1.121 | 2.178 | 2.585 |
| 0.40 | 0.329 | 0.457 | 0.702 | 0.941 | 1.178 | 2.235 | 2.741 |
| 0.50 | 0.333 | 0.468 | 0.727 | 0.982 | 1.235 | 2.291 | 3.052 |
| 0.60 | 0.336 | 0.478 | 0.752 | 1.022 | 1.348 | 2.896 | 3.566 |
| 0.70 | 0.340 | 0.488 | 0.777 | 1.067 | 1.405 | 3.052 | 3.887 |
| 0.80 | 0.344 | 0.498 | 0.802 | 1.107 | 1.462 | 3.207 | 4.209 |
| 0.90 | 0.348 | 0.508 | 0.827 | 1.145 | 1.462 | 3.363 | 4.030 |

LAMBDA SEQUENCE : 1 1 2 0 0 0 1 2

R = 3 SS = 5  
 LAMBDA STAR : 2 1 2

LAMBDA SEQUENCE :

| PROB | 0.50  | 1.00  | 2.00  | 3.00  | GAMMA | 4.00  | 10.00  | 50.00  | 100.00 |
|------|-------|-------|-------|-------|-------|-------|--------|--------|--------|
| 0.10 | 0.322 | 0.435 | 0.642 | 0.841 | 1.036 | 2.190 | 9.816  | 19.342 |        |
| 0.20 | 0.320 | 0.431 | 0.633 | 0.826 | 1.014 | 2.124 | 9.444  | 18.584 |        |
| 0.30 | 0.320 | 0.430 | 0.630 | 0.819 | 1.004 | 2.088 | 9.223  | 18.129 |        |
| 0.40 | 0.320 | 0.432 | 0.633 | 0.823 | 1.008 | 2.092 | 9.212  | 18.097 |        |
| 0.50 | 0.322 | 0.436 | 0.644 | 0.840 | 1.031 | 2.146 | 9.470  | 18.609 |        |
| 0.60 | 0.325 | 0.445 | 0.663 | 0.871 | 1.074 | 2.261 | 10.055 | 19.783 |        |
| 0.70 | 0.330 | 0.457 | 0.693 | 0.919 | 1.141 | 2.445 | 11.028 | 21.741 |        |
| 0.80 | 0.336 | 0.471 | 0.734 | 0.987 | 1.236 | 2.709 | 12.445 | 24.603 |        |
| 0.90 | 0.343 | 0.493 | 0.786 | 1.074 | 1.361 | 3.064 | 14.367 | 28.489 |        |

LAMBDA SEQUENCE :

| PROB | 0.50  | 1.00  | 2.00  | 3.00  | GAMMA | 4.00  | 10.00  | 50.00  | 100.00 |
|------|-------|-------|-------|-------|-------|-------|--------|--------|--------|
| 0.10 | 0.313 | 0.419 | 0.620 | 0.815 | 1.008 | 2.157 | 9.781  | 19.306 |        |
| 0.20 | 0.314 | 0.420 | 0.618 | 0.808 | 0.995 | 2.102 | 9.420  | 18.560 |        |
| 0.30 | 0.316 | 0.423 | 0.621 | 0.809 | 0.993 | 2.076 | 9.211  | 18.117 |        |
| 0.40 | 0.318 | 0.429 | 0.629 | 0.819 | 1.005 | 2.090 | 9.210  | 18.096 |        |
| 0.50 | 0.322 | 0.436 | 0.645 | 0.842 | 1.033 | 2.151 | 9.474  | 18.616 |        |
| 0.60 | 0.326 | 0.447 | 0.668 | 0.877 | 1.081 | 2.271 | 10.068 | 19.796 |        |
| 0.70 | 0.331 | 0.460 | 0.699 | 0.927 | 1.151 | 2.458 | 11.044 | 21.758 |        |
| 0.80 | 0.337 | 0.476 | 0.740 | 0.994 | 1.245 | 2.722 | 12.461 | 24.619 |        |
| 0.90 | 0.344 | 0.496 | 0.790 | 1.080 | 1.367 | 3.072 | 14.377 | 28.499 |        |

LAMBDA SEQUENCE :

| PROB | 0.50  | 1.00  | 2.00  | 3.00  | GAMMA | 4.00  | 10.0   | 50.0   | 100.0 |
|------|-------|-------|-------|-------|-------|-------|--------|--------|-------|
| 0.10 | 0.310 | 0.414 | 0.612 | 0.806 | 0.998 | 2.145 | 9.767  | 19.292 |       |
| 0.20 | 0.311 | 0.414 | 0.608 | 0.796 | 0.982 | 2.085 | 9.401  | 18.541 |       |
| 0.30 | 0.312 | 0.417 | 0.609 | 0.795 | 0.977 | 2.056 | 9.187  | 18.093 |       |
| 0.40 | 0.315 | 0.421 | 0.617 | 0.804 | 0.988 | 2.067 | 9.184  | 18.069 |       |
| 0.50 | 0.318 | 0.429 | 0.632 | 0.826 | 1.015 | 2.128 | 9.149  | 18.587 |       |
| 0.60 | 0.323 | 0.440 | 0.656 | 0.862 | 1.064 | 2.248 | 10.041 | 21.769 |       |
| 0.70 | 0.328 | 0.454 | 0.689 | 0.914 | 1.135 | 2.438 | 11.019 | 21.732 |       |
| 0.80 | 0.335 | 0.472 | 0.732 | 0.984 | 1.233 | 2.706 | 12.441 | 24.599 |       |
| 0.90 | 0.343 | 0.493 | 0.786 | 1.074 | 1.360 | 3.063 | 14.366 | 28.488 |       |

## LAMBDA SEQUENCE :

| PROB | 0.50  | 1.00  | 2.00  | 3.00  | 4.00  | 10.00 | 50.00  | 100.00 |
|------|-------|-------|-------|-------|-------|-------|--------|--------|
| 0.10 | 0.313 | 0.419 | 0.620 | 0.815 | 1.008 | 2.157 | 9.781  | 19.306 |
| 0.20 | 0.314 | 0.420 | 0.618 | 0.808 | 0.995 | 2.102 | 9.420  | 18.560 |
| 0.30 | 0.316 | 0.423 | 0.621 | 0.809 | 0.993 | 2.076 | 9.211  | 18.117 |
| 0.40 | 0.318 | 0.429 | 0.629 | 0.819 | 1.005 | 2.090 | 9.210  | 18.096 |
| 0.50 | 0.322 | 0.436 | 0.645 | 0.842 | 1.033 | 2.151 | 9.476  | 18.616 |
| 0.60 | 0.326 | 0.447 | 0.668 | 0.877 | 1.081 | 2.271 | 10.068 | 19.796 |
| 0.70 | 0.331 | 0.460 | 0.699 | 0.927 | 1.151 | 2.458 | 11.044 | 21.758 |
| 0.80 | 0.337 | 0.476 | 0.740 | 0.994 | 1.245 | 2.722 | 12.461 | 24.619 |
| 0.90 | 0.344 | 0.496 | 0.790 | 1.080 | 1.367 | 3.072 | 14.377 | 28.499 |

## LAMBDA SEQUENCE :

| PROB | 0.50  | 1.00  | 2.00  | 3.00  | 4.00  | 10.00 | 50.00  | 100.00 |
|------|-------|-------|-------|-------|-------|-------|--------|--------|
| 0.10 | 0.322 | 0.435 | 0.642 | 0.841 | 1.036 | 2.190 | 9.816  | 19.342 |
| 0.20 | 0.320 | 0.431 | 0.633 | 0.826 | 1.014 | 2.124 | 9.444  | 18.574 |
| 0.30 | 0.320 | 0.430 | 0.630 | 0.819 | 1.004 | 2.088 | 9.223  | 18.129 |
| 0.40 | 0.320 | 0.432 | 0.635 | 0.823 | 1.008 | 2.092 | 9.212  | 18.097 |
| 0.50 | 0.322 | 0.436 | 0.644 | 0.840 | 1.031 | 2.146 | 9.470  | 18.609 |
| 0.60 | 0.325 | 0.445 | 0.663 | 0.871 | 1.074 | 2.261 | 10.055 | 19.783 |
| 0.70 | 0.330 | 0.457 | 0.693 | 0.919 | 1.141 | 2.445 | 11.028 | 21.741 |
| 0.80 | 0.336 | 0.473 | 0.734 | 0.987 | 1.236 | 2.709 | 12.445 | 24.603 |
| 0.90 | 0.343 | 0.493 | 0.786 | 1.074 | 1.361 | 3.064 | 14.367 | 28.489 |

## LAMBDA SEQUENCE :

| PROB | 0.50  | 1.00  | 2.00  | 3.00  | 4.00  | 10.00 | 50.00  | 100.00 |
|------|-------|-------|-------|-------|-------|-------|--------|--------|
| 0.10 | 0.324 | 0.438 | 0.638 | 0.821 | 0.997 | 2.010 | 8.592  | 16.797 |
| 0.20 | 0.325 | 0.440 | 0.643 | 0.829 | 1.007 | 2.032 | 8.682  | 16.971 |
| 0.30 | 0.326 | 0.444 | 0.652 | 0.844 | 1.029 | 2.090 | 8.979  | 17.566 |
| 0.40 | 0.328 | 0.450 | 0.667 | 0.868 | 1.063 | 2.185 | 9.483  | 18.582 |
| 0.50 | 0.331 | 0.457 | 0.686 | 0.901 | 1.109 | 2.316 | 10.194 | 20.019 |
| 0.60 | 0.334 | 0.466 | 0.710 | 0.941 | 1.167 | 2.484 | 11.112 | 21.877 |
| 0.70 | 0.338 | 0.477 | 0.738 | 0.990 | 1.237 | 2.688 | 12.237 | 24.156 |
| 0.80 | 0.342 | 0.489 | 0.771 | 1.047 | 1.319 | 2.928 | 13.568 | 26.856 |
| 0.90 | 0.347 | 0.503 | 0.809 | 1.112 | 1.413 | 3.205 | 15.107 | 29.977 |

LAMBDA SEQUENCE : 1 0 2 1 1 0 1

| PROB | 0.50  | 1.00  | 2.00  | 3.00  | GAMMA | 4.00  | 10.00  | 50.00  | 100.00 |
|------|-------|-------|-------|-------|-------|-------|--------|--------|--------|
| 0.10 | 0.311 | 0.411 | 0.593 | 0.765 | 0.935 | 1.931 | 8.500  | 16.704 |        |
| 0.20 | 0.313 | 0.416 | 0.602 | 0.779 | 0.951 | 1.960 | 8.598  | 16.886 |        |
| 0.30 | 0.316 | 0.423 | 0.617 | 0.800 | 0.979 | 2.026 | 8.904  | 17.489 |        |
| 0.40 | 0.320 | 0.432 | 0.636 | 0.830 | 1.020 | 2.128 | 9.417  | 18.514 |        |
| 0.50 | 0.324 | 0.442 | 0.660 | 0.869 | 1.072 | 2.268 | 10.137 | 19.961 |        |
| 0.60 | 0.328 | 0.454 | 0.689 | 0.915 | 1.137 | 2.444 | 11.065 | 21.829 |        |
| 0.70 | 0.333 | 0.468 | 0.723 | 0.970 | 1.214 | 2.658 | 12.201 | 24.119 |        |
| 0.80 | 0.339 | 0.483 | 0.761 | 1.034 | 1.304 | 2.908 | 13.544 | 26.830 |        |
| 0.90 | 0.345 | 0.500 | 0.804 | 1.105 | 1.405 | 3.195 | 15.094 | 29.964 |        |

LAMBDA SEQUENCE : 1 1 1 1 0 1 1

| PROB | 0.50  | 1.00  | 2.00  | 3.00  | GAMMA | 4.00  | 10.00  | 50.00  | 100.00 |
|------|-------|-------|-------|-------|-------|-------|--------|--------|--------|
| 0.10 | 0.311 | 0.410 | 0.592 | 0.765 | 0.934 | 1.931 | 8.501  | 16.705 |        |
| 0.20 | 0.314 | 0.418 | 0.606 | 0.784 | 0.957 | 1.969 | 8.610  | 16.898 |        |
| 0.30 | 0.315 | 0.427 | 0.625 | 0.810 | 0.991 | 2.042 | 8.924  | 17.510 |        |
| 0.40 | 0.322 | 0.437 | 0.646 | 0.843 | 1.035 | 2.150 | 9.443  | 18.541 |        |
| 0.50 | 0.327 | 0.448 | 0.672 | 0.883 | 1.090 | 2.292 | 10.166 | 19.990 |        |
| 0.60 | 0.331 | 0.460 | 0.701 | 0.930 | 1.155 | 2.468 | 11.094 | 21.858 |        |
| 0.70 | 0.336 | 0.473 | 0.733 | 0.984 | 1.230 | 2.679 | 12.227 | 24.145 |        |
| 0.80 | 0.341 | 0.488 | 0.769 | 1.044 | 1.316 | 2.924 | 13.564 | 26.851 |        |
| 0.90 | 0.346 | 0.503 | 0.809 | 1.111 | 1.412 | 3.204 | 15.105 | 29.975 |        |

LAMBDA SEQUENCE : 2 0 1 0 1 1 1

| PROB | 0.50  | 1.00  | 2.00  | 3.00  | GAMMA | 4.00  | 10.00  | 50.00  | 100.00 |
|------|-------|-------|-------|-------|-------|-------|--------|--------|--------|
| 0.10 | 0.311 | 0.411 | 0.593 | 0.765 | 0.935 | 1.931 | 8.500  | 16.704 |        |
| 0.20 | 0.313 | 0.416 | 0.602 | 0.779 | 0.951 | 1.960 | 8.598  | 16.886 |        |
| 0.30 | 0.316 | 0.423 | 0.617 | 0.800 | 0.979 | 2.026 | 8.904  | 17.489 |        |
| 0.40 | 0.320 | 0.432 | 0.636 | 0.830 | 1.020 | 2.128 | 9.417  | 18.514 |        |
| 0.50 | 0.324 | 0.442 | 0.660 | 0.869 | 1.072 | 2.268 | 10.137 | 19.961 |        |
| 0.60 | 0.328 | 0.454 | 0.689 | 0.915 | 1.137 | 2.444 | 11.065 | 21.829 |        |
| 0.70 | 0.333 | 0.468 | 0.723 | 0.970 | 1.214 | 2.658 | 12.201 | 24.119 |        |
| 0.80 | 0.339 | 0.483 | 0.761 | 1.034 | 1.304 | 2.908 | 13.544 | 26.830 |        |
| 0.90 | 0.345 | 0.500 | 0.804 | 1.105 | 1.405 | 3.195 | 15.094 | 29.964 |        |

## LAMBDA SEQUENCE :

| PROB | 0.50  | 1.00  | 2.00  | 3.00  | GAMMA | 4.00  | 10.00  | 50.00  | 100.00 |
|------|-------|-------|-------|-------|-------|-------|--------|--------|--------|
| 0.10 | 0.324 | 0.438 | 0.638 | 0.821 | 0.997 | 2.010 | 8.592  | 16.797 |        |
| 0.20 | 0.325 | 0.440 | 0.643 | 0.829 | 1.007 | 2.032 | 8.682  | 16.971 |        |
| 0.30 | 0.326 | 0.444 | 0.652 | 0.844 | 1.029 | 2.090 | 8.979  | 17.566 |        |
| 0.40 | 0.328 | 0.450 | 0.667 | 0.868 | 1.063 | 2.185 | 9.483  | 18.582 |        |
| 0.50 | 0.331 | 0.457 | 0.686 | 0.901 | 1.109 | 2.316 | 10.194 | 20.019 |        |
| 0.60 | 0.334 | 0.466 | 0.710 | 0.941 | 1.167 | 2.484 | 11.112 | 21.877 |        |
| 0.70 | 0.338 | 0.477 | 0.738 | 0.990 | 1.237 | 2.688 | 12.237 | 24.156 |        |
| 0.80 | 0.342 | 0.489 | 0.771 | 0.947 | 1.319 | 2.928 | 13.568 | 26.856 |        |
| 0.90 | 0.347 | 0.503 | 0.809 | 1.112 | 1.413 | 3.205 | 15.107 | 29.977 |        |

## LAMBDA SEQUENCE :

| PROB | 0.50  | 1.00  | 2.00  | 3.00  | GAMMA | 4.00  | 10.00  | 50.00  | 100.00 |
|------|-------|-------|-------|-------|-------|-------|--------|--------|--------|
| 0.10 | 0.327 | 0.444 | 0.650 | 0.837 | 1.015 | 2.027 | 8.533  | 16.632 |        |
| 0.20 | 0.329 | 0.452 | 0.672 | 0.876 | 1.071 | 2.193 | 9.457  | 18.509 |        |
| 0.30 | 0.332 | 0.461 | 0.695 | 0.914 | 1.127 | 2.358 | 10.382 | 20.385 |        |
| 0.40 | 0.335 | 0.469 | 0.717 | 0.953 | 1.183 | 2.524 | 11.306 | 22.261 |        |
| 0.50 | 0.338 | 0.477 | 0.740 | 0.992 | 1.239 | 2.690 | 12.230 | 24.137 |        |
| 0.60 | 0.341 | 0.486 | 0.762 | 1.030 | 1.295 | 2.856 | 13.155 | 26.014 |        |
| 0.70 | 0.343 | 0.494 | 0.784 | 1.069 | 1.351 | 3.021 | 14.079 | 27.890 |        |
| 0.80 | 0.346 | 0.502 | 0.807 | 1.108 | 1.407 | 3.187 | 15.003 | 29.766 |        |
| 0.90 | 0.349 | 0.510 | 0.829 | 1.146 | 1.463 | 3.353 | 15.928 | 31.642 |        |

## LAMBDA SEQUENCE :

| PROB | 0.50  | 1.00  | 2.00  | 3.00  | GAMMA | 4.00  | 10.00  | 50.00  | 100.00 |
|------|-------|-------|-------|-------|-------|-------|--------|--------|--------|
| 0.10 | 0.315 | 0.419 | 0.603 | 0.776 | 0.945 | 1.931 | 8.417  | 16.513 |        |
| 0.20 | 0.319 | 0.430 | 0.631 | 0.822 | 1.008 | 2.107 | 9.354  | 18.403 |        |
| 0.30 | 0.323 | 0.441 | 0.658 | 0.867 | 1.072 | 2.284 | 10.291 | 20.292 |        |
| 0.40 | 0.327 | 0.452 | 0.686 | 0.912 | 1.136 | 2.460 | 11.228 | 22.182 |        |
| 0.50 | 0.331 | 0.463 | 0.714 | 0.958 | 1.200 | 2.636 | 12.166 | 24.071 |        |
| 0.60 | 0.335 | 0.474 | 0.741 | 1.003 | 1.263 | 2.813 | 13.103 | 25.961 |        |
| 0.70 | 0.340 | 0.485 | 0.769 | 1.049 | 1.327 | 2.989 | 14.040 | 27.850 |        |
| 0.80 | 0.344 | 0.496 | 0.797 | 1.094 | 1.391 | 3.166 | 14.977 | 29.740 |        |
| 0.90 | 0.348 | 0.507 | 0.824 | 1.140 | 1.455 | 3.342 | 15.915 | 31.629 |        |

LAMBDA SEQUENCE : 2 1 1 0 0 1 2

| PROB | 0.50  | 1.00  | 2.00  | 3.00  | 4.00  | 5.00  | 10.00  | 50.00  | 100.00 |
|------|-------|-------|-------|-------|-------|-------|--------|--------|--------|
| 0.10 | 0.327 | 0.444 | 0.650 | 0.837 | 1.015 | 2.027 | 8.533  | 16.632 |        |
| 0.20 | 0.329 | 0.452 | 0.672 | 0.876 | 1.071 | 2.193 | 9.457  | 18.509 |        |
| 0.30 | 0.332 | 0.461 | 0.695 | 0.914 | 1.127 | 2.358 | 10.382 | 20.385 |        |
| 0.40 | 0.335 | 0.469 | 0.717 | 0.953 | 1.183 | 2.524 | 11.306 | 22.261 |        |
| 0.50 | 0.338 | 0.477 | 0.740 | 0.992 | 1.239 | 2.690 | 12.230 | 24.137 |        |
| 0.60 | 0.341 | 0.486 | 0.762 | 1.030 | 1.295 | 2.856 | 13.155 | 26.014 |        |
| 0.70 | 0.343 | 0.494 | 0.784 | 1.069 | 1.351 | 3.021 | 14.079 | 27.390 |        |
| 0.80 | 0.346 | 0.502 | 0.807 | 1.108 | 1.407 | 3.187 | 15.003 | 29.766 |        |
| 0.90 | 0.349 | 0.510 | 0.829 | 1.146 | 1.463 | 3.353 | 15.928 | 31.642 |        |

| PROB | 0.50  | 1.00  | 2.00  | 3.00  | 4.00  | 5.00  | 10.00  | 50.00  | 100.00 |
|------|-------|-------|-------|-------|-------|-------|--------|--------|--------|
| 0.10 | 0.327 | 0.444 | 0.650 | 0.837 | 1.015 | 2.027 | 8.533  | 16.632 |        |
| 0.20 | 0.329 | 0.452 | 0.672 | 0.876 | 1.071 | 2.193 | 9.457  | 18.509 |        |
| 0.30 | 0.332 | 0.461 | 0.695 | 0.914 | 1.127 | 2.358 | 10.382 | 20.385 |        |
| 0.40 | 0.335 | 0.469 | 0.717 | 0.953 | 1.183 | 2.524 | 11.306 | 22.261 |        |
| 0.50 | 0.338 | 0.477 | 0.740 | 0.992 | 1.239 | 2.690 | 12.230 | 24.137 |        |
| 0.60 | 0.341 | 0.486 | 0.762 | 1.030 | 1.295 | 2.856 | 13.155 | 26.014 |        |
| 0.70 | 0.343 | 0.494 | 0.784 | 1.069 | 1.351 | 3.021 | 14.079 | 27.390 |        |
| 0.80 | 0.346 | 0.502 | 0.807 | 1.108 | 1.407 | 3.187 | 15.003 | 29.766 |        |
| 0.90 | 0.349 | 0.510 | 0.829 | 1.146 | 1.463 | 3.353 | 15.928 | 31.642 |        |

R = 3 SS = 0<sup>6</sup>  
LAMBDA STAR : 3 0 3

| LAMBDA SEQUENCE : |       | 0 0 3 0 0 0 |       |       |       | 3.00 GAMMA 4.00 |        |        |        | 10.00  |        |       |        | 50.00  |        |        |        | 100.00 |        |        |        |
|-------------------|-------|-------------|-------|-------|-------|-----------------|--------|--------|--------|--------|--------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| PROB              |       | 0.50        |       | 1.00  |       | 2.00            |        | 3.00   |        | GAMMA  |        | 4.00  |        | 10.00  |        | 50.00  |        | 100.00 |        |        |        |
| 0.10              | 0.346 | 0.502       | 0.913 | 1.123 | 1.433 | 3.291           | 15.671 | 31.145 | 31.145 | 14.636 | 29.063 | 3.093 | 14.636 | 31.145 | 31.145 | 14.636 | 29.063 | 31.145 | 31.145 | 14.636 | 29.063 |
| 0.20              | 0.340 | 0.489       | 0.781 | 1.071 | 1.360 | 3.093           | 14.636 | 29.063 | 29.063 | 13.791 | 27.360 | 2.934 | 13.791 | 27.360 | 27.360 | 13.791 | 27.360 | 27.360 | 13.791 | 27.360 | 27.360 |
| 0.30              | 0.337 | 0.478       | 0.755 | 1.029 | 1.302 | 2.934           | 13.791 | 27.360 | 27.360 | 12.845 | 26.126 | 2.819 | 13.791 | 26.126 | 26.126 | 12.845 | 26.126 | 26.126 | 12.845 | 26.126 | 26.126 |
| 0.40              | 0.334 | 0.472       | 0.738 | 1.000 | 1.261 | 2.758           | 12.831 | 25.449 | 25.449 | 12.845 | 25.449 | 2.758 | 12.831 | 25.449 | 25.449 | 12.845 | 25.449 | 25.449 | 12.845 | 25.449 | 25.449 |
| 0.50              | 0.333 | 0.469       | 0.729 | 0.986 | 1.240 | 2.758           | 12.831 | 25.449 | 25.449 | 12.845 | 25.449 | 2.758 | 12.831 | 25.449 | 25.449 | 12.845 | 25.449 | 25.449 | 12.845 | 25.449 | 25.449 |
| 0.60              | 0.334 | 0.469       | 0.731 | 0.987 | 1.241 | 2.826           | 13.181 | 26.121 | 26.121 | 12.845 | 26.121 | 2.826 | 13.181 | 26.121 | 26.121 | 12.845 | 26.121 | 26.121 | 12.845 | 26.121 | 26.121 |
| 0.70              | 0.336 | 0.475       | 0.743 | 1.006 | 1.267 | 2.826           | 13.181 | 26.121 | 26.121 | 12.845 | 26.121 | 2.826 | 13.181 | 26.121 | 26.121 | 12.845 | 26.121 | 26.121 | 12.845 | 26.121 | 26.121 |
| 0.80              | 0.339 | 0.484       | 0.766 | 1.044 | 1.320 | 2.970           | 13.939 | 27.646 | 27.646 | 13.939 | 27.646 | 2.970 | 13.939 | 27.646 | 27.646 | 13.939 | 27.646 | 27.646 | 13.939 | 27.646 | 27.646 |
| 0.90              | 0.345 | 0.499       | 0.802 | 1.103 | 1.403 | 3.159           | 15.148 | 30.082 | 30.082 | 15.148 | 30.082 | 3.159 | 15.148 | 30.082 | 30.082 | 15.148 | 30.082 | 30.082 | 15.148 | 30.082 | 30.082 |
| LAMBDA SEQUENCE : |       | 1 0 2 0 1 0 |       |       |       | 3.00 GAMMA 4.00 |        |        |        | 10.00  |        |       |        | 50.00  |        |        |        | 100.00 |        |        |        |
| PROB              |       | 0.50        |       | 1.00  |       | 2.00            |        | 3.00   |        | GAMMA  |        | 4.00  |        | 10.00  |        | 50.00  |        | 100.00 |        | 50.00  |        |
| 0.10              | 0.308 | 0.406       | 0.588 | 0.764 | 0.938 | 1.969           | 8.798  | 17.330 | 17.330 | 9.056  | 17.845 | 2.021 | 9.056  | 17.845 | 17.845 | 9.056  | 17.845 | 17.845 | 9.056  | 17.845 | 17.845 |
| 0.20              | 0.311 | 0.412       | 0.599 | 0.781 | 0.960 | 2.088           | 2.091  | 2.091  | 2.091  | 9.405  | 18.541 | 2.088 | 9.405  | 18.541 | 18.541 | 9.405  | 18.541 | 18.541 | 9.405  | 18.541 | 18.541 |
| 0.30              | 0.314 | 0.419       | 0.614 | 0.802 | 0.988 | 2.025           | 9.477  | 19.477 | 19.477 | 9.477  | 19.477 | 2.025 | 9.477  | 19.477 | 19.477 | 9.477  | 19.477 | 19.477 | 9.477  | 19.477 | 19.477 |
| 0.40              | 0.317 | 0.427       | 0.632 | 0.830 | 1.025 | 2.185           | 2.307  | 2.307  | 2.307  | 10.490 | 20.714 | 2.185 | 10.490 | 20.714 | 20.714 | 10.490 | 20.714 | 20.714 | 10.490 | 20.714 | 20.714 |
| 0.50              | 0.321 | 0.437       | 0.654 | 0.864 | 1.072 | 2.307           | 2.461  | 2.461  | 2.461  | 11.286 | 22.312 | 2.307 | 11.286 | 22.312 | 22.312 | 11.286 | 22.312 | 22.312 | 11.286 | 22.312 | 22.312 |
| 0.60              | 0.326 | 0.449       | 0.681 | 0.908 | 1.132 | 2.454           | 2.454  | 2.454  | 2.454  | 12.291 | 24.331 | 2.454 | 12.291 | 24.331 | 24.331 | 12.291 | 24.331 | 24.331 | 12.291 | 24.331 | 24.331 |
| 0.70              | 0.331 | 0.463       | 0.714 | 0.960 | 1.204 | 2.492           | 2.893  | 2.893  | 2.893  | 13.534 | 26.832 | 2.893 | 13.534 | 26.832 | 26.832 | 13.534 | 26.832 | 26.832 | 13.534 | 26.832 | 26.832 |
| 0.80              | 0.337 | 0.479       | 0.753 | 1.023 | 1.292 | 3.179           | 15.044 | 30.874 | 30.874 | 15.044 | 30.874 | 3.179 | 15.044 | 30.874 | 30.874 | 15.044 | 30.874 | 30.874 | 15.044 | 30.874 | 30.874 |
| LAMBDA SEQUENCE : |       | 2 0 1 0 2 0 |       |       |       | 3.00 GAMMA 4.00 |        |        |        | 10.00  |        |       |        | 50.00  |        |        |        | 100.00 |        |        |        |
| PROB              |       | 0.50        |       | 1.00  |       | 2.00            |        | 3.00   |        | GAMMA  |        | 4.00  |        | 10.00  |        | 50.00  |        | 100.00 |        | 50.00  |        |
| 0.10              | 0.308 | 0.406       | 0.588 | 0.764 | 0.938 | 1.969           | 8.798  | 17.339 | 17.339 | 9.056  | 17.845 | 2.021 | 9.056  | 17.845 | 17.845 | 9.056  | 17.845 | 17.845 | 9.056  | 17.845 | 17.845 |
| 0.20              | 0.311 | 0.412       | 0.599 | 0.781 | 0.960 | 2.088           | 2.091  | 2.091  | 2.091  | 9.405  | 18.541 | 2.088 | 9.405  | 18.541 | 18.541 | 9.405  | 18.541 | 18.541 | 9.405  | 18.541 | 18.541 |
| 0.30              | 0.314 | 0.419       | 0.614 | 0.802 | 0.988 | 2.185           | 2.185  | 2.185  | 2.185  | 9.873  | 19.477 | 2.185 | 9.873  | 19.477 | 19.477 | 9.873  | 19.477 | 19.477 | 9.873  | 19.477 | 19.477 |
| 0.40              | 0.317 | 0.427       | 0.632 | 0.830 | 1.025 | 2.307           | 2.307  | 2.307  | 2.307  | 10.490 | 20.714 | 2.307 | 10.490 | 20.714 | 20.714 | 10.490 | 20.714 | 20.714 | 10.490 | 20.714 | 20.714 |
| 0.50              | 0.321 | 0.437       | 0.654 | 0.864 | 1.072 | 2.454           | 2.454  | 2.454  | 2.454  | 11.286 | 22.312 | 2.454 | 11.286 | 22.312 | 22.312 | 11.286 | 22.312 | 22.312 | 11.286 | 22.312 | 22.312 |
| 0.60              | 0.326 | 0.449       | 0.681 | 0.908 | 1.132 | 2.462           | 2.462  | 2.462  | 2.462  | 11.286 | 22.312 | 2.462 | 11.286 | 22.312 | 22.312 | 11.286 | 22.312 | 22.312 | 11.286 | 22.312 | 22.312 |
| 0.70              | 0.331 | 0.463       | 0.714 | 0.960 | 1.204 | 2.656           | 2.656  | 2.656  | 2.656  | 12.291 | 24.331 | 2.656 | 12.291 | 24.331 | 24.331 | 12.291 | 24.331 | 24.331 | 12.291 | 24.331 | 24.331 |
| 0.80              | 0.337 | 0.479       | 0.753 | 1.023 | 1.292 | 2.893           | 2.893  | 2.893  | 2.893  | 13.534 | 26.832 | 2.893 | 13.534 | 26.832 | 26.832 | 13.534 | 26.832 | 26.832 | 13.534 | 26.832 | 26.832 |
| 0.90              | 0.344 | 0.498       | 0.799 | 1.098 | 1.396 | 3.179           | 3.179  | 3.179  | 3.179  | 15.044 | 30.874 | 3.179 | 15.044 | 30.874 | 30.874 | 15.044 | 30.874 | 30.874 | 15.044 | 30.874 | 30.874 |

LAMBDA SEQUENCE : 3 0 0 0 0 3 0

| PROB | 0.50  | 1.00  | 2.00  | 3.00  | 4.00  | 10.00 | 50.00  | 100.00 |
|------|-------|-------|-------|-------|-------|-------|--------|--------|
| 0.10 | 0.346 | 0.502 | 0.813 | 1.123 | 1.433 | 3.291 | 15.671 | 31.145 |
| 0.20 | 0.340 | 0.489 | 0.781 | 1.071 | 1.360 | 3.093 | 14.636 | 29.063 |
| 0.30 | 0.337 | 0.478 | 0.755 | 1.029 | 1.302 | 2.934 | 13.791 | 27.360 |
| 0.40 | 0.334 | 0.472 | 0.738 | 1.000 | 1.261 | 2.819 | 13.179 | 26.126 |
| 0.50 | 0.333 | 0.469 | 0.729 | 0.986 | 1.240 | 2.758 | 12.845 | 25.449 |
| 0.60 | 0.334 | 0.469 | 0.731 | 0.987 | 1.241 | 2.758 | 12.831 | 25.418 |
| 0.70 | 0.336 | 0.475 | 0.743 | 1.006 | 1.267 | 2.826 | 13.181 | 26.121 |
| 0.80 | 0.339 | 0.484 | 0.766 | 1.044 | 1.320 | 2.970 | 13.939 | 27.646 |
| 0.90 | 0.345 | 0.499 | 0.802 | 1.103 | 1.403 | 3.199 | 15.148 | 30.082 |

LAMBDA SEQUENCE : 1 0 3 2 0 0 1

| PROB | 0.50  | 1.00  | 2.00  | 3.00  | 4.00  | 10.00 | 50.00  | 100.00 |
|------|-------|-------|-------|-------|-------|-------|--------|--------|
| 0.10 | 0.328 | 0.457 | 0.706 | 0.951 | 1.195 | 2.649 | 12.325 | 24.417 |
| 0.20 | 0.329 | 0.457 | 0.703 | 0.945 | 1.184 | 2.614 | 12.110 | 23.977 |
| 0.30 | 0.329 | 0.458 | 0.705 | 0.946 | 1.186 | 2.611 | 12.075 | 23.900 |
| 0.40 | 0.331 | 0.462 | 0.712 | 0.956 | 1.198 | 2.641 | 12.219 | 24.186 |
| 0.50 | 0.333 | 0.467 | 0.723 | 0.974 | 1.223 | 2.705 | 12.542 | 24.834 |
| 0.60 | 0.335 | 0.473 | 0.739 | 1.000 | 1.259 | 2.801 | 13.045 | 25.846 |
| 0.70 | 0.339 | 0.482 | 0.760 | 1.034 | 1.306 | 2.931 | 13.728 | 27.220 |
| 0.80 | 0.342 | 0.492 | 0.786 | 1.076 | 1.366 | 3.074 | 14.590 | 28.957 |
| 0.90 | 0.347 | 0.505 | 0.817 | 1.127 | 1.436 | 3.289 | 15.631 | 31.056 |

LAMBDA SEQUENCE : 2 0 2 1 0 1 1

| PROB | 0.50  | 1.00  | 2.00  | 3.00  | 4.00  | 10.00 | 50.00  | 100.00 |
|------|-------|-------|-------|-------|-------|-------|--------|--------|
| 0.10 | 0.308 | 0.402 | 0.572 | 0.734 | 0.893 | 1.831 | 8.038  | 15.791 |
| 0.20 | 0.312 | 0.414 | 0.597 | 0.773 | 0.946 | 1.967 | 8.723  | 17.161 |
| 0.30 | 0.317 | 0.425 | 0.624 | 0.815 | 1.003 | 2.116 | 9.481  | 18.682 |
| 0.40 | 0.322 | 0.437 | 0.652 | 0.860 | 1.064 | 2.277 | 10.313 | 20.352 |
| 0.50 | 0.327 | 0.450 | 0.682 | 0.907 | 1.130 | 2.452 | 11.219 | 22.172 |
| 0.60 | 0.331 | 0.463 | 0.713 | 0.957 | 1.199 | 2.639 | 12.198 | 24.142 |
| 0.70 | 0.336 | 0.476 | 0.745 | 1.010 | 1.273 | 2.840 | 13.251 | 26.261 |
| 0.80 | 0.341 | 0.490 | 0.779 | 1.066 | 1.351 | 3.053 | 14.378 | 28.531 |
| 0.90 | 0.347 | 0.504 | 0.815 | 1.124 | 1.433 | 3.279 | 15.578 | 30.950 |

| LAMBDA SEQUENCE : | 3     | 0     | 1     | 0     | 0     | 2     | 1     | GAMMA  | 4.00   | 10.00  | 50.00  | 100.00 |
|-------------------|-------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|
| PROB              | 0.50  |       | 1.00  |       | 2.00  |       | 3.00  | 0.951  | 1.195  | 2.649  | 12.325 | 24.417 |
| 0.10              | 0.328 | 0.457 | 0.706 | 0.945 | 1.184 | 2.614 | 2.614 | 12.110 | 12.075 | 12.219 | 23.977 | 23.900 |
| 0.20              | 0.329 | 0.457 | 0.703 | 0.946 | 1.186 | 2.611 | 2.611 | 12.075 | 12.075 | 12.219 | 24.186 | 24.186 |
| 0.30              | 0.329 | 0.458 | 0.705 | 0.956 | 1.198 | 2.611 | 2.611 | 12.075 | 12.075 | 12.219 | 24.186 | 24.186 |
| 0.40              | 0.331 | 0.462 | 0.712 | 0.956 | 1.223 | 2.705 | 2.705 | 12.075 | 12.075 | 12.219 | 24.186 | 24.186 |
| 0.50              | 0.333 | 0.467 | 0.723 | 0.974 | 1.259 | 2.705 | 2.705 | 12.075 | 12.075 | 12.219 | 24.186 | 24.186 |
| 0.60              | 0.335 | 0.473 | 0.739 | 1.004 | 1.259 | 2.705 | 2.705 | 12.075 | 12.075 | 12.219 | 24.186 | 24.186 |
| 0.70              | 0.339 | 0.482 | 0.760 | 1.034 | 1.306 | 2.801 | 2.801 | 13.728 | 13.728 | 14.590 | 27.220 | 27.220 |
| 0.80              | 0.342 | 0.492 | 0.786 | 1.076 | 1.366 | 2.934 | 2.934 | 14.590 | 14.590 | 15.631 | 28.957 | 28.957 |
| 0.90              | 0.347 | 0.505 | 0.817 | 1.127 | 1.436 | 3.289 | 3.289 | 15.631 | 15.631 | 15.631 | 31.056 | 31.056 |
| LAMBDA SEQUENCE : | 2     | 0     | 3     | 1     | 0     | 0     | 2     | GAMMA  | 4.00   | 10.00  | 50.00  | 100.00 |
| PROB              | 0.50  |       | 1.00  |       | 2.00  |       | 3.00  | 0.904  | 1.122  | 2.413  | 10.954 | 21.622 |
| 0.10              | 0.328 | 0.452 | 0.682 | 0.935 | 1.166 | 2.536 | 2.536 | 11.609 | 11.609 | 12.265 | 22.943 | 22.943 |
| 0.20              | 0.331 | 0.459 | 0.701 | 0.966 | 1.210 | 2.659 | 2.659 | 12.265 | 12.265 | 12.920 | 24.265 | 24.265 |
| 0.30              | 0.333 | 0.467 | 0.720 | 0.998 | 1.254 | 2.782 | 2.782 | 12.920 | 12.920 | 13.575 | 25.587 | 25.587 |
| 0.40              | 0.336 | 0.474 | 0.739 | 0.998 | 1.298 | 2.905 | 2.905 | 13.575 | 13.575 | 14.231 | 26.909 | 26.909 |
| 0.50              | 0.339 | 0.481 | 0.758 | 1.029 | 1.342 | 3.027 | 3.027 | 14.231 | 14.231 | 14.886 | 28.231 | 28.231 |
| 0.60              | 0.341 | 0.489 | 0.776 | 1.060 | 1.386 | 3.150 | 3.150 | 14.886 | 14.886 | 15.541 | 29.553 | 29.553 |
| 0.70              | 0.344 | 0.496 | 0.795 | 1.091 | 1.430 | 3.273 | 3.273 | 15.541 | 15.541 | 16.197 | 30.875 | 30.875 |
| 0.80              | 0.347 | 0.504 | 0.814 | 1.123 | 1.474 | 3.396 | 3.396 | 16.197 | 16.197 | 16.197 | 32.197 | 32.197 |
| LAMBDA SEQUENCE : | 3     | 0     | 2     | 0     | 0     | 1     | 2     | GAMMA  | 4.00   | 10.00  | 50.00  | 100.00 |
| PROB              | 0.50  |       | 1.00  |       | 2.00  |       | 3.00  | 0.904  | 1.122  | 2.413  | 10.954 | 21.622 |
| 0.10              | 0.328 | 0.452 | 0.682 | 0.935 | 1.166 | 2.536 | 2.536 | 11.609 | 11.609 | 12.265 | 22.943 | 22.943 |
| 0.20              | 0.331 | 0.459 | 0.701 | 0.966 | 1.210 | 2.659 | 2.659 | 12.265 | 12.265 | 12.920 | 24.265 | 24.265 |
| 0.30              | 0.333 | 0.467 | 0.720 | 0.998 | 1.254 | 2.782 | 2.782 | 12.920 | 12.920 | 13.575 | 25.587 | 25.587 |
| 0.40              | 0.336 | 0.474 | 0.739 | 0.998 | 1.298 | 2.905 | 2.905 | 13.575 | 13.575 | 14.231 | 26.909 | 26.909 |
| 0.50              | 0.339 | 0.481 | 0.758 | 1.029 | 1.342 | 3.027 | 3.027 | 14.231 | 14.231 | 14.886 | 28.231 | 28.231 |
| 0.60              | 0.341 | 0.489 | 0.776 | 1.060 | 1.386 | 3.150 | 3.150 | 14.886 | 14.886 | 15.541 | 29.553 | 29.553 |
| 0.70              | 0.344 | 0.496 | 0.795 | 1.091 | 1.430 | 3.273 | 3.273 | 15.541 | 15.541 | 16.197 | 30.875 | 30.875 |
| 0.80              | 0.347 | 0.504 | 0.814 | 1.123 | 1.474 | 3.396 | 3.396 | 16.197 | 16.197 | 16.197 | 32.197 | 32.197 |

C-2

$$R = \begin{pmatrix} 4 & 0 \\ 0 & 4 \end{pmatrix} \quad SS = \begin{pmatrix} 4 & 0 \\ 0 & 4 \end{pmatrix}$$

LAMBDA SEQUENCE : 0 0 0 0 1 0 0

| PROB | 0.50  | 1.00  | 2.00  | 3.00  | 4.00  | 10.00 | 50.00  | 100.00 |
|------|-------|-------|-------|-------|-------|-------|--------|--------|
| 0.10 | 0.257 | 0.373 | 0.605 | 0.836 | 1.067 | 2.453 | 11.693 | 23.242 |
| 0.20 | 0.252 | 0.360 | 0.576 | 0.790 | 1.004 | 2.289 | 10.848 | 21.547 |
| 0.30 | 0.248 | 0.350 | 0.552 | 0.752 | 0.952 | 2.149 | 10.120 | 20.084 |
| 0.40 | 0.245 | 0.343 | 0.534 | 0.723 | 0.911 | 2.038 | 9.538  | 18.911 |
| 0.50 | 0.244 | 0.339 | 0.523 | 0.705 | 0.886 | 1.966 | 9.044  | 18.829 |
| 0.60 | 0.244 | 0.339 | 0.521 | 0.701 | 0.942 | 1.980 | 9.185  | 18.189 |
| 0.70 | 0.246 | 0.343 | 0.530 | 0.713 | 0.895 | 1.980 | 9.780  | 19.382 |
| 0.80 | 0.250 | 0.352 | 0.551 | 0.746 | 0.940 | 2.096 | 10.019 | 21.618 |
| 0.90 | 0.256 | 0.367 | 0.586 | 0.803 | 1.019 | 2.309 | 10.891 | 21.618 |

LAMBDA SEQUENCE : 0 1 0 0 3 0 1

| PROB | 0.50  | 1.00  | 2.00  | 3.00  | 4.00  | 5.00  | 10.00  | 100.00 |
|------|-------|-------|-------|-------|-------|-------|--------|--------|
|      | GAMMA |       |       |       |       |       |        |        |
| 0.10 | 0.244 | 0.341 | 0.533 | 0.725 | 0.915 | 2.059 | 9.675  | 19.196 |
| 0.20 | 0.242 | 0.337 | 0.522 | 0.706 | 0.888 | 1.983 | 9.266  | 18.374 |
| 0.30 | 0.242 | 0.334 | 0.515 | 0.693 | 0.870 | 1.927 | 8.963  | 17.756 |
| 0.40 | 0.242 | 0.334 | 0.512 | 0.687 | 0.861 | 1.899 | 8.795  | 17.415 |
| 0.50 | 0.243 | 0.336 | 0.515 | 0.691 | 0.865 | 1.903 | 8.798  | 17.836 |
| 0.60 | 0.243 | 0.341 | 0.524 | 0.704 | 0.883 | 1.946 | 9.010  | 18.747 |
| 0.70 | 0.243 | 0.341 | 0.534 | 0.704 | 0.883 | 1.946 | 9.036  | 19.464 |
| 0.80 | 0.252 | 0.348 | 0.540 | 0.730 | 0.917 | 2.036 | 10.197 | 20.220 |
| 0.90 | 0.252 | 0.358 | 0.564 | 0.768 | 0.970 | 2.176 | 11.775 | 22.227 |

LAMBDA SEQUENCE : 0 2 0 0 2 0 2

| PROB | 1.00  | 2.00  | 3.00  | 4.00  | 5.00  | 10.00 | 50.00  | 100.00 |
|------|-------|-------|-------|-------|-------|-------|--------|--------|
| 0.50 | 0.238 | 0.326 | 0.494 | 0.660 | 0.825 | 1.807 | 8.337  | 16.498 |
|      | 0.239 | 0.328 | 0.497 | 0.662 | 0.827 | 1.805 | 8.303  | 16.422 |
|      | 0.241 | 0.331 | 0.503 | 0.671 | 0.837 | 1.827 | 8.396  | 16.605 |
|      | 0.243 | 0.336 | 0.512 | 0.685 | 0.856 | 1.872 | 8.618  | 17.047 |
|      | 0.246 | 0.341 | 0.525 | 0.704 | 0.882 | 1.941 | 8.968  | 17.748 |
|      | 0.248 | 0.348 | 0.541 | 0.730 | 0.917 | 2.033 | 9.446  | 18.708 |
|      | 0.252 | 0.357 | 0.560 | 0.761 | 0.960 | 2.149 | 10.052 | 19.927 |
|      | 0.255 | 0.366 | 0.583 | 0.798 | 0.997 | 2.289 | 10.786 | 21.406 |

LAMBDA SEQUENCE : 0 3 0 0 1 0 3

| PRUB | 0.50  | 1.00  | 2.00  | 3.00  | GAMMA | 4.00  | 10.00  | 50.00  | 100.00 |
|------|-------|-------|-------|-------|-------|-------|--------|--------|--------|
| 0.10 | 0.243 | 0.332 | 0.499 | 0.658 | 0.814 | 1.746 | 7.894  | 15.573 |        |
| 0.20 | 0.245 | 0.339 | 0.514 | 0.684 | 0.852 | 1.845 | 8.421  | 14.636 |        |
| 0.30 | 0.247 | 0.345 | 0.530 | 0.710 | 0.888 | 1.944 | 8.948  | 17.699 |        |
| 0.40 | 0.250 | 0.351 | 0.545 | 0.735 | 0.924 | 2.043 | 9.476  | 18.762 |        |
| 0.50 | 0.252 | 0.357 | 0.561 | 0.761 | 0.959 | 2.143 | 10.003 | 19.825 |        |
| 0.60 | 0.254 | 0.364 | 0.577 | 0.786 | 0.995 | 2.242 | 10.530 | 20.888 |        |
| 0.70 | 0.257 | 0.370 | 0.592 | 0.812 | 1.031 | 2.341 | 11.057 | 21.950 |        |
| 0.80 | 0.259 | 0.376 | 0.608 | 0.838 | 1.067 | 2.440 | 11.584 | 23.013 |        |
| 0.90 | 0.262 | 0.383 | 0.623 | 0.863 | 1.103 | 2.540 | 12.112 | 24.076 |        |

$R = 4$   $SS = 1 3 1$   
 LAMBDA STAR :  $0 0 1 1 3 0 0$

|      | PROB  | 0.50  | 1.00  | 2.00  | 3.00  | GAMMA | 4.00   | 10.00  | 50.00 | 100.00 |
|------|-------|-------|-------|-------|-------|-------|--------|--------|-------|--------|
| 0.10 | 0.245 | 0.343 | 0.533 | 0.721 | 0.909 | 2.034 | 9.524  | 18.886 |       |        |
| 0.20 | 0.242 | 0.335 | 0.515 | 0.692 | 0.869 | 1.925 | 8.956  | 17.742 |       |        |
| 0.30 | 0.240 | 0.330 | 0.501 | 0.669 | 0.837 | 1.835 | 8.473  | 16.768 |       |        |
| 0.40 | 0.239 | 0.327 | 0.493 | 0.655 | 0.815 | 1.771 | 8.113  | 16.038 |       |        |
| 0.50 | 0.240 | 0.327 | 0.491 | 0.650 | 0.807 | 1.741 | 7.930  | 15.661 |       |        |
| 0.60 | 0.241 | 0.330 | 0.497 | 0.658 | 0.817 | 1.759 | 7.991  | 15.777 |       |        |
| 0.70 | 0.245 | 0.338 | 0.513 | 0.687 | 0.849 | 1.838 | 8.384  | 16.559 |       |        |
| 0.80 | 0.249 | 0.349 | 0.540 | 0.726 | 0.909 | 1.997 | 9.208  | 18.215 |       |        |
| 0.90 | 0.256 | 0.366 | 0.581 | 0.793 | 1.003 | 2.257 | 10.582 | 20.984 |       |        |

LAMBDA SEQUENCE :  $0 1 0 1 2 1 0$

|      | PROB  | 0.50  | 1.00  | 2.00  | 3.00  | GAMMA | 4.00   | 10.00  | 50.00 | 100.00 |
|------|-------|-------|-------|-------|-------|-------|--------|--------|-------|--------|
| 0.10 | 0.243 | 0.338 | 0.527 | 0.715 | 0.903 | 2.027 | 9.517  | 18.879 |       |        |
| 0.20 | 0.240 | 0.332 | 0.511 | 0.698 | 0.865 | 1.921 | 8.951  | 17.738 |       |        |
| 0.30 | 0.239 | 0.328 | 0.499 | 0.668 | 0.835 | 1.834 | 8.472  | 16.767 |       |        |
| 0.40 | 0.239 | 0.326 | 0.493 | 0.655 | 0.816 | 1.771 | 8.114  | 16.040 |       |        |
| 0.50 | 0.240 | 0.327 | 0.492 | 0.652 | 0.809 | 1.744 | 7.933  | 15.665 |       |        |
| 0.60 | 0.242 | 0.331 | 0.499 | 0.661 | 0.820 | 1.763 | 7.997  | 15.782 |       |        |
| 0.70 | 0.245 | 0.339 | 0.515 | 0.686 | 0.853 | 1.844 | 8.390  | 16.566 |       |        |
| 0.80 | 0.250 | 0.351 | 0.543 | 0.729 | 0.913 | 2.003 | 9.214  | 18.222 |       |        |
| 0.90 | 0.256 | 0.367 | 0.583 | 0.795 | 1.006 | 2.260 | 10.586 | 20.989 |       |        |

LAMBDA SEQUENCE :  $1 0 0 0 3 1 0$

|      | PROB  | 0.50  | 1.00  | 2.00  | 3.00  | GAMMA | 4.00   | 10.00  | 50.00 | 100.00 |
|------|-------|-------|-------|-------|-------|-------|--------|--------|-------|--------|
| 0.10 | 0.245 | 0.343 | 0.533 | 0.721 | 0.909 | 2.034 | 9.524  | 18.886 |       |        |
| 0.20 | 0.242 | 0.335 | 0.515 | 0.692 | 0.869 | 1.925 | 8.956  | 17.742 |       |        |
| 0.30 | 0.240 | 0.330 | 0.501 | 0.669 | 0.837 | 1.835 | 8.473  | 16.768 |       |        |
| 0.40 | 0.239 | 0.327 | 0.493 | 0.655 | 0.815 | 1.771 | 8.113  | 16.038 |       |        |
| 0.50 | 0.240 | 0.330 | 0.491 | 0.650 | 0.807 | 1.741 | 7.930  | 15.661 |       |        |
| 0.60 | 0.241 | 0.330 | 0.497 | 0.658 | 0.817 | 1.759 | 7.991  | 15.777 |       |        |
| 0.70 | 0.245 | 0.338 | 0.513 | 0.682 | 0.849 | 1.838 | 8.384  | 16.559 |       |        |
| 0.80 | 0.249 | 0.349 | 0.540 | 0.726 | 0.909 | 1.997 | 9.208  | 18.215 |       |        |
| 0.90 | 0.256 | 0.366 | 0.581 | 0.793 | 1.003 | 2.257 | 10.582 | 20.984 |       |        |

LAMBDA SEQUENCE :

| PROB | 0.50  | 1.00  | 2.00  | 3.00  | 4.00  | 10.00 | 50.00  | 100.00 |
|------|-------|-------|-------|-------|-------|-------|--------|--------|
| 0.10 | 0.237 | 0.323 | 0.488 | 0.650 | 0.811 | 1.773 | 8.168  | 16.160 |
| 0.20 | 0.237 | 0.322 | 0.483 | 0.641 | 0.797 | 1.726 | 7.896  | 15.606 |
| 0.30 | 0.238 | 0.323 | 0.482 | 0.637 | 0.797 | 1.699 | 7.725  | 15.252 |
| 0.40 | 0.239 | 0.325 | 0.486 | 0.641 | 0.794 | 1.699 | 7.693  | 15.179 |
| 0.50 | 0.241 | 0.330 | 0.494 | 0.653 | 0.809 | 1.733 | 7.840  | 15.467 |
| 0.60 | 0.244 | 0.336 | 0.509 | 0.675 | 0.839 | 1.807 | 8.205  | 16.197 |
| 0.70 | 0.248 | 0.345 | 0.529 | 0.708 | 0.884 | 1.927 | 8.829  | 17.448 |
| 0.80 | 0.252 | 0.357 | 0.558 | 0.754 | 0.948 | 2.102 | 9.749  | 19.302 |
| 0.90 | 0.258 | 0.371 | 0.594 | 0.814 | 1.032 | 2.337 | 11.006 | 21.839 |

LAMBDA SEQUENCE :

| PROB | 0.50  | 1.00  | 2.00  | 3.00  | 4.00  | 10.00 | 50.00  | 100.00 |
|------|-------|-------|-------|-------|-------|-------|--------|--------|
| 0.10 | 0.236 | 0.321 | 0.486 | 0.647 | 0.808 | 1.770 | 8.165  | 16.157 |
| 0.20 | 0.237 | 0.322 | 0.483 | 0.640 | 0.796 | 1.726 | 7.896  | 15.606 |
| 0.30 | 0.238 | 0.323 | 0.483 | 0.638 | 0.792 | 1.701 | 7.728  | 15.255 |
| 0.40 | 0.240 | 0.326 | 0.488 | 0.644 | 0.797 | 1.704 | 7.698  | 15.185 |
| 0.50 | 0.242 | 0.331 | 0.497 | 0.657 | 0.814 | 1.739 | 7.847  | 15.475 |
| 0.60 | 0.245 | 0.338 | 0.512 | 0.680 | 0.844 | 1.814 | 8.214  | 16.206 |
| 0.70 | 0.249 | 0.347 | 0.533 | 0.713 | 0.890 | 1.935 | 8.837  | 17.457 |
| 0.80 | 0.253 | 0.359 | 0.561 | 0.758 | 0.953 | 2.108 | 9.757  | 19.310 |
| 0.90 | 0.258 | 0.373 | 0.596 | 0.816 | 1.035 | 2.341 | 11.011 | 21.844 |

LAMBDA SEQUENCE :

| PROB | 0.50  | 1.00  | 2.00  | 3.00  | 4.00  | 10.00 | 50.00  | 100.00 |
|------|-------|-------|-------|-------|-------|-------|--------|--------|
| 0.10 | 0.237 | 0.323 | 0.487 | 0.649 | 0.809 | 1.771 | 8.166  | 16.158 |
| 0.20 | 0.237 | 0.321 | 0.481 | 0.638 | 0.794 | 1.722 | 7.892  | 15.602 |
| 0.30 | 0.237 | 0.321 | 0.479 | 0.633 | 0.786 | 1.694 | 7.718  | 15.246 |
| 0.40 | 0.238 | 0.323 | 0.482 | 0.636 | 0.788 | 1.692 | 7.685  | 15.171 |
| 0.50 | 0.240 | 0.327 | 0.490 | 0.647 | 0.803 | 1.725 | 7.830  | 15.457 |
| 0.60 | 0.243 | 0.333 | 0.504 | 0.669 | 0.832 | 1.798 | 8.195  | 16.186 |
| 0.70 | 0.246 | 0.343 | 0.525 | 0.703 | 0.878 | 1.919 | 8.819  | 17.438 |
| 0.80 | 0.251 | 0.355 | 0.554 | 0.750 | 0.943 | 2.095 | 9.741  | 19.294 |
| 0.90 | 0.257 | 0.370 | 0.592 | 0.811 | 1.029 | 2.333 | 11.001 | 21.834 |

## LAMBDA SEQUENCE :

|      | 1     | 1     | 0     | 0     | 2     | 1     | 1     |       |
|------|-------|-------|-------|-------|-------|-------|-------|-------|
| PROB | 0.50  | 0.50  | 1.00  | 1.00  | 2.00  | 2.00  | 3.00  | GAMMA |
| 0.10 | 0.237 | 0.237 | 0.323 | 0.323 | 0.488 | 0.488 | 0.650 | 0.811 |
| 0.20 | 0.238 | 0.238 | 0.322 | 0.322 | 0.483 | 0.483 | 0.641 | 0.797 |
| 0.30 | 0.239 | 0.239 | 0.323 | 0.323 | 0.482 | 0.482 | 0.637 | 0.790 |
| 0.40 | 0.239 | 0.239 | 0.325 | 0.325 | 0.486 | 0.486 | 0.641 | 0.794 |
| 0.50 | 0.241 | 0.241 | 0.330 | 0.330 | 0.494 | 0.494 | 0.653 | 0.809 |
| 0.60 | 0.244 | 0.244 | 0.336 | 0.336 | 0.509 | 0.509 | 0.675 | 0.839 |
| 0.70 | 0.248 | 0.248 | 0.345 | 0.345 | 0.529 | 0.529 | 0.708 | 0.884 |
| 0.80 | 0.252 | 0.252 | 0.357 | 0.357 | 0.558 | 0.558 | 0.754 | 0.948 |
| 0.90 | 0.258 | 0.258 | 0.371 | 0.371 | 0.594 | 0.594 | 0.814 | 1.032 |

## LAMBDA SEQUENCE :

|      | 0     | 2     | 1     | 1     | 1     | 0     | 2     |       |
|------|-------|-------|-------|-------|-------|-------|-------|-------|
| PROB | 0.50  | 0.50  | 1.00  | 1.00  | 2.00  | 2.00  | 3.00  | GAMMA |
| 0.10 | 0.237 | 0.237 | 0.319 | 0.319 | 0.471 | 0.471 | 0.617 | 0.761 |
| 0.20 | 0.239 | 0.239 | 0.323 | 0.323 | 0.478 | 0.478 | 0.626 | 0.771 |
| 0.30 | 0.241 | 0.241 | 0.328 | 0.328 | 0.487 | 0.487 | 0.640 | 0.790 |
| 0.40 | 0.243 | 0.243 | 0.333 | 0.333 | 0.500 | 0.500 | 0.659 | 0.816 |
| 0.50 | 0.246 | 0.246 | 0.340 | 0.340 | 0.516 | 0.516 | 0.684 | 0.850 |
| 0.60 | 0.249 | 0.249 | 0.348 | 0.348 | 0.534 | 0.534 | 0.714 | 0.892 |
| 0.70 | 0.252 | 0.252 | 0.357 | 0.357 | 0.556 | 0.556 | 0.750 | 0.942 |
| 0.80 | 0.256 | 0.256 | 0.366 | 0.366 | 0.581 | 0.581 | 0.791 | 0.999 |
| 0.90 | 0.260 | 0.260 | 0.377 | 0.377 | 0.608 | 0.608 | 0.837 | 1.065 |

|      | 0     | 3     | 0     | 1     | 0     | 1     | 2     |       |
|------|-------|-------|-------|-------|-------|-------|-------|-------|
| PROB | 0.50  | 0.50  | 1.00  | 1.00  | 2.00  | 2.00  | 3.00  | GAMMA |
| 0.10 | 0.238 | 0.238 | 0.321 | 0.321 | 0.473 | 0.473 | 0.620 | 0.765 |
| 0.20 | 0.240 | 0.240 | 0.325 | 0.325 | 0.482 | 0.482 | 0.631 | 0.777 |
| 0.30 | 0.243 | 0.243 | 0.331 | 0.331 | 0.493 | 0.493 | 0.647 | 0.797 |
| 0.40 | 0.245 | 0.245 | 0.337 | 0.337 | 0.503 | 0.503 | 0.667 | 0.824 |
| 0.50 | 0.248 | 0.248 | 0.344 | 0.344 | 0.522 | 0.522 | 0.692 | 0.859 |
| 0.60 | 0.251 | 0.251 | 0.351 | 0.351 | 0.540 | 0.540 | 0.722 | 0.900 |
| 0.70 | 0.254 | 0.254 | 0.360 | 0.360 | 0.561 | 0.561 | 0.757 | 0.949 |
| 0.80 | 0.257 | 0.257 | 0.369 | 0.369 | 0.584 | 0.584 | 0.796 | 1.055 |
| 0.90 | 0.260 | 0.260 | 0.378 | 0.378 | 0.610 | 0.610 | 0.840 | 1.068 |

## LAMBDA SEQUENCE :

| PROB | 0.50  | 1.00  | 2.00  | 3.00  | 4.00  | 5.00  | 10.00  | 50.00  | 100.00 |
|------|-------|-------|-------|-------|-------|-------|--------|--------|--------|
| 0.10 | 0.235 | 0.315 | 0.464 | 0.609 | 0.752 | 1.602 | 7.234  | 14.270 |        |
| 0.20 | 0.236 | 0.318 | 0.470 | 0.617 | 0.761 | 1.516 | 7.278  | 14.350 |        |
| 0.30 | 0.239 | 0.323 | 0.479 | 0.630 | 0.779 | 1.556 | 7.461  | 14.712 |        |
| 0.40 | 0.241 | 0.329 | 0.492 | 0.649 | 0.805 | 1.721 | 7.783  | 15.356 |        |
| 0.50 | 0.244 | 0.336 | 0.508 | 0.675 | 0.839 | 1.811 | 8.245  | 16.281 |        |
| 0.60 | 0.247 | 0.344 | 0.527 | 0.706 | 0.882 | 1.926 | 8.846  | 17.489 |        |
| 0.70 | 0.251 | 0.353 | 0.550 | 0.743 | 0.933 | 2.067 | 9.585  | 18.979 |        |
| 0.80 | 0.255 | 0.364 | 0.576 | 0.786 | 0.993 | 2.232 | 10.464 | 20.750 |        |
| 0.90 | 0.259 | 0.376 | 0.606 | 0.834 | 1.062 | 2.423 | 11.482 | 22.804 |        |

## LAMBDA SEQUENCE :

| PROB | 0.50  | 1.00  | 2.00  | 3.00  | 4.00  | 5.00  | 10.00  | 50.00  | 100.00 |
|------|-------|-------|-------|-------|-------|-------|--------|--------|--------|
| 0.10 | 0.237 | 0.319 | 0.471 | 0.617 | 0.761 | 1.613 | 7.246  | 14.282 |        |
| 0.20 | 0.239 | 0.323 | 0.478 | 0.626 | 0.771 | 1.629 | 7.293  | 14.365 |        |
| 0.30 | 0.241 | 0.328 | 0.487 | 0.640 | 0.790 | 1.670 | 7.478  | 14.729 |        |
| 0.40 | 0.243 | 0.333 | 0.500 | 0.659 | 0.816 | 1.736 | 7.800  | 15.373 |        |
| 0.50 | 0.246 | 0.340 | 0.516 | 0.684 | 0.850 | 1.825 | 8.262  | 16.298 |        |
| 0.60 | 0.249 | 0.348 | 0.534 | 0.714 | 0.892 | 1.939 | 8.861  | 17.505 |        |
| 0.70 | 0.252 | 0.357 | 0.556 | 0.750 | 0.942 | 2.078 | 9.598  | 18.992 |        |
| 0.80 | 0.256 | 0.366 | 0.581 | 0.791 | 0.999 | 2.240 | 10.474 | 20.760 |        |
| 0.90 | 0.260 | 0.377 | 0.608 | 0.837 | 1.065 | 2.427 | 11.487 | 22.809 |        |

## LAMBDA SEQUENCE :

| PROB | 0.50  | 1.00  | 2.00  | 3.00  | 4.00  | 5.00  | 10.00  | 50.00  | 100.00 |
|------|-------|-------|-------|-------|-------|-------|--------|--------|--------|
| 0.10 | 0.248 | 0.340 | 0.505 | 0.658 | 0.806 | 1.654 | 7.171  | 14.049 |        |
| 0.20 | 0.249 | 0.346 | 0.520 | 0.684 | 0.843 | 1.764 | 7.779  | 15.281 |        |
| 0.30 | 0.251 | 0.351 | 0.535 | 0.709 | 0.880 | 1.873 | 8.386  | 16.513 |        |
| 0.40 | 0.253 | 0.356 | 0.550 | 0.735 | 0.917 | 1.983 | 8.994  | 17.746 |        |
| 0.50 | 0.255 | 0.362 | 0.565 | 0.761 | 0.954 | 2.092 | 9.601  | 18.978 |        |
| 0.60 | 0.257 | 0.367 | 0.579 | 0.786 | 0.991 | 2.201 | 10.209 | 20.210 |        |
| 0.70 | 0.258 | 0.373 | 0.594 | 0.812 | 1.028 | 2.311 | 10.816 | 21.442 |        |
| 0.80 | 0.260 | 0.378 | 0.609 | 0.838 | 1.065 | 2.420 | 11.424 | 22.674 |        |
| 0.90 | 0.262 | 0.383 | 0.624 | 0.863 | 1.102 | 2.529 | 12.031 | 23.907 |        |

LAMBDA SEQUENCE :

|      | 1     | 2 | 1     | 0 | 1     | 0 | 3     |
|------|-------|---|-------|---|-------|---|-------|
| PROB | 0.50  |   | 1.00  |   | 2.00  |   | 3.00  |
| 0.10 | 0.241 |   | 0.327 |   | 0.483 |   | 0.630 |
| 0.20 | 0.244 |   | 0.334 |   | 0.500 |   | 0.659 |
| 0.30 | 0.246 |   | 0.341 |   | 0.518 |   | 0.687 |
| 0.40 | 0.249 |   | 0.348 |   | 0.535 |   | 0.716 |
| 0.50 | 0.251 |   | 0.355 |   | 0.552 |   | 0.745 |
| 0.60 | 0.254 |   | 0.362 |   | 0.570 |   | 0.774 |
| 0.70 | 0.256 |   | 0.368 |   | 0.587 |   | 0.803 |
| 0.80 | 0.259 |   | 0.375 |   | 0.604 |   | 0.831 |
| 0.90 | 0.261 |   | 0.382 |   | 0.622 |   | 0.860 |

LAMBDA SEQUENCE :

|      | 1     | 3 | 0     | 0 | 1     | 3 |       |
|------|-------|---|-------|---|-------|---|-------|
| PROB | 0.50  |   | 1.00  |   | 2.00  |   | 3.00  |
| 0.10 | 0.248 |   | 0.340 |   | 0.505 |   | 0.658 |
| 0.20 | 0.249 |   | 0.346 |   | 0.520 |   | 0.684 |
| 0.30 | 0.251 |   | 0.351 |   | 0.535 |   | 0.709 |
| 0.40 | 0.253 |   | 0.356 |   | 0.550 |   | 0.735 |
| 0.50 | 0.255 |   | 0.362 |   | 0.565 |   | 0.761 |
| 0.60 | 0.257 |   | 0.367 |   | 0.579 |   | 0.786 |
| 0.70 | 0.258 |   | 0.373 |   | 0.594 |   | 0.812 |
| 0.80 | 0.260 |   | 0.378 |   | 0.609 |   | 0.838 |
| 0.90 | 0.262 |   | 0.383 |   | 0.624 |   | 0.863 |

|      | 3.00  | GAMMA | 4.00  |  | 10.00 |  | 50.00  |  | 100.00 |
|------|-------|-------|-------|--|-------|--|--------|--|--------|
| 0.10 | 0.611 |       | 0.773 |  | 1.611 |  | 7.119  |  | 13.995 |
| 0.20 | 0.725 |       | 0.814 |  | 1.725 |  | 7.733  |  | 15.234 |
| 0.30 | 0.839 |       | 0.854 |  | 1.839 |  | 8.346  |  | 16.472 |
| 0.40 | 0.895 |       | 0.935 |  | 1.953 |  | 9.959  |  | 17.710 |
| 0.50 | 0.936 |       | 0.976 |  | 2.068 |  | 9.572  |  | 18.948 |
| 0.60 | 0.974 |       | 0.976 |  | 2.182 |  | 10.186 |  | 20.186 |
| 0.70 | 0.803 |       | 1.017 |  | 2.296 |  | 10.799 |  | 21.424 |
| 0.80 | 0.831 |       | 1.058 |  | 2.410 |  | 11.412 |  | 22.663 |
| 0.90 | 0.860 |       | 1.098 |  | 2.525 |  | 12.026 |  | 23.901 |

R = 4    SS = 6  
LAMBDA STAR : 2 2 2

LAMBDA SEQUENCE : 0 0 2 2 2 0 0

| PROB | 0.50  | 1.00  | 2.00  | 3.00  | GAMMA | 4.00  | 10.00  | 50.00  | 100.00 |
|------|-------|-------|-------|-------|-------|-------|--------|--------|--------|
| 0.10 | 0.240 | 0.327 | 0.491 | 0.651 | 0.810 | 1.759 | 8.061  | 15.937 |        |
| 0.20 | 0.238 | 0.322 | 0.479 | 0.632 | 0.784 | 1.684 | 7.655  | 15.117 |        |
| 0.30 | 0.237 | 0.320 | 0.472 | 0.619 | 0.764 | 1.625 | 7.321  | 14.438 |        |
| 0.40 | 0.238 | 0.319 | 0.469 | 0.613 | 0.755 | 1.589 | 7.101  | 13.983 |        |
| 0.50 | 0.239 | 0.322 | 0.473 | 0.617 | 0.758 | 1.588 | 7.052  | 13.873 |        |
| 0.60 | 0.241 | 0.327 | 0.484 | 0.633 | 0.779 | 1.633 | 7.250  | 14.262 |        |
| 0.70 | 0.245 | 0.336 | 0.504 | 0.664 | 0.821 | 1.741 | 7.790  | 15.340 |        |
| 0.80 | 0.249 | 0.349 | 0.535 | 0.714 | 0.891 | 1.930 | 8.780  | 17.333 |        |
| 0.90 | 0.256 | 0.366 | 0.579 | 0.788 | 0.994 | 2.221 | 10.348 | 20.501 |        |

LAMBDA SEQUENCE : 0 1 1 2 1 1 0

| PROB | 0.50  | 1.00  | 2.00  | 3.00  | GAMMA | 4.00  | 10.00  | 50.00  | 100.00 |
|------|-------|-------|-------|-------|-------|-------|--------|--------|--------|
| 0.10 | 0.236 | 0.320 | 0.482 | 0.641 | 0.800 | 1.747 | 8.049  | 15.924 |        |
| 0.20 | 0.236 | 0.318 | 0.473 | 0.626 | 0.777 | 1.676 | 7.647  | 15.109 |        |
| 0.30 | 0.236 | 0.317 | 0.468 | 0.615 | 0.760 | 1.620 | 7.317  | 14.434 |        |
| 0.40 | 0.237 | 0.318 | 0.468 | 0.612 | 0.754 | 1.589 | 7.100  | 13.983 |        |
| 0.50 | 0.239 | 0.322 | 0.474 | 0.618 | 0.760 | 1.590 | 7.055  | 13.873 |        |
| 0.60 | 0.242 | 0.328 | 0.486 | 0.636 | 0.782 | 1.638 | 7.257  | 14.269 |        |
| 0.70 | 0.245 | 0.338 | 0.507 | 0.668 | 0.826 | 1.748 | 7.798  | 15.349 |        |
| 0.80 | 0.250 | 0.350 | 0.538 | 0.719 | 0.896 | 1.937 | 8.789  | 17.332 |        |
| 0.90 | 0.256 | 0.367 | 0.581 | 0.791 | 0.998 | 2.226 | 10.354 | 20.507 |        |

LAMBDA SEQUENCE : 0 2 0 2 0 2 0

| PROB | 0.50  | 1.00  | 2.00  | 3.00  | GAMMA | 4.00  | 10.00  | 50.00  | 100.00 |
|------|-------|-------|-------|-------|-------|-------|--------|--------|--------|
| 0.10 | 0.235 | 0.318 | 0.479 | 0.638 | 0.796 | 1.743 | 8.044  | 15.920 |        |
| 0.20 | 0.235 | 0.317 | 0.472 | 0.624 | 0.775 | 1.674 | 7.646  | 15.107 |        |
| 0.30 | 0.236 | 0.317 | 0.469 | 0.616 | 0.761 | 1.621 | 7.319  | 14.435 |        |
| 0.40 | 0.237 | 0.319 | 0.470 | 0.615 | 0.757 | 1.592 | 7.105  | 13.988 |        |
| 0.50 | 0.240 | 0.324 | 0.477 | 0.622 | 0.764 | 1.596 | 7.056  | 13.884 |        |
| 0.60 | 0.243 | 0.330 | 0.490 | 0.641 | 0.788 | 1.646 | 7.266  | 14.278 |        |
| 0.70 | 0.247 | 0.330 | 0.511 | 0.674 | 0.832 | 1.756 | 7.809  | 15.360 |        |
| 0.80 | 0.251 | 0.353 | 0.542 | 0.724 | 0.902 | 1.944 | 8.798  | 17.352 |        |
| 0.90 | 0.257 | 0.369 | 0.584 | 0.794 | 0.998 | 2.231 | 10.361 | 20.514 |        |

## LAMBDA SEQUENCE :

| PROB | 0.50  | 1.00  | 2.00  | 3.00  | GAMMA | 4.00  | 10.00  | 50.00  | 100.00 |
|------|-------|-------|-------|-------|-------|-------|--------|--------|--------|
| 0.10 | 0.236 | 0.320 | 0.481 | 0.640 | 0.799 | 1.745 | 8.047  | 15.922 |        |
| 0.20 | 0.235 | 0.316 | 0.471 | 0.623 | 0.774 | 1.672 | 7.643  | 15.105 |        |
| 0.30 | 0.235 | 0.315 | 0.465 | 0.612 | 0.756 | 1.615 | 7.311  | 14.427 |        |
| 0.40 | 0.236 | 0.316 | 0.464 | 0.607 | 0.748 | 1.581 | 7.092  | 13.975 |        |
| 0.50 | 0.237 | 0.319 | 0.469 | 0.612 | 0.753 | 1.582 | 7.045  | 13.866 |        |
| 0.60 | 0.240 | 0.325 | 0.481 | 0.630 | 0.775 | 1.629 | 7.246  | 14.257 |        |
| 0.70 | 0.244 | 0.335 | 0.502 | 0.662 | 0.819 | 1.738 | 7.787  | 15.337 |        |
| 0.80 | 0.249 | 0.348 | 0.534 | 0.713 | 0.890 | 1.928 | 8.779  | 17.332 |        |
| 0.90 | 0.256 | 0.366 | 0.579 | 0.787 | 0.994 | 2.221 | 10.348 | 20.500 |        |

## LAMBDA SEQUENCE :

| PROB | 0.50  | 1.00  | 2.00  | 3.00  | GAMMA | 4.00  | 10.00  | 50.00  | 100.00 |
|------|-------|-------|-------|-------|-------|-------|--------|--------|--------|
| 0.10 | 0.236 | 0.320 | 0.482 | 0.641 | 0.800 | 1.747 | 8.049  | 15.924 |        |
| 0.20 | 0.236 | 0.318 | 0.473 | 0.626 | 0.777 | 1.676 | 7.647  | 15.109 |        |
| 0.30 | 0.236 | 0.317 | 0.468 | 0.615 | 0.760 | 1.620 | 7.317  | 14.434 |        |
| 0.40 | 0.237 | 0.318 | 0.468 | 0.612 | 0.754 | 1.589 | 7.104  | 13.983 |        |
| 0.50 | 0.239 | 0.322 | 0.474 | 0.618 | 0.760 | 1.590 | 7.055  | 13.877 |        |
| 0.60 | 0.242 | 0.328 | 0.486 | 0.636 | 0.782 | 1.638 | 7.257  | 14.269 |        |
| 0.70 | 0.245 | 0.338 | 0.507 | 0.668 | 0.826 | 1.748 | 7.798  | 15.349 |        |
| 0.80 | 0.250 | 0.350 | 0.538 | 0.719 | 0.896 | 1.937 | 8.789  | 17.342 |        |
| 0.90 | 0.256 | 0.367 | 0.581 | 0.791 | 0.998 | 2.226 | 10.354 | 20.507 |        |

## LAMBDA SEQUENCE :

| PROB | 0.50  | 1.00  | 2.00  | 3.00  | GAMMA | 4.00  | 10.00  | 50.00  | 100.00 |
|------|-------|-------|-------|-------|-------|-------|--------|--------|--------|
| 0.10 | 0.240 | 0.327 | 0.491 | 0.651 | 0.810 | 1.759 | 8.061  | 15.937 |        |
| 0.20 | 0.238 | 0.322 | 0.479 | 0.632 | 0.784 | 1.684 | 7.655  | 15.117 |        |
| 0.30 | 0.237 | 0.320 | 0.472 | 0.619 | 0.764 | 1.625 | 7.321  | 14.438 |        |
| 0.40 | 0.238 | 0.319 | 0.469 | 0.613 | 0.755 | 1.589 | 7.101  | 13.983 |        |
| 0.50 | 0.239 | 0.322 | 0.473 | 0.617 | 0.758 | 1.588 | 7.052  | 13.873 |        |
| 0.60 | 0.241 | 0.327 | 0.484 | 0.633 | 0.779 | 1.633 | 7.250  | 14.262 |        |
| 0.70 | 0.245 | 0.336 | 0.504 | 0.664 | 0.821 | 1.741 | 7.790  | 15.340 |        |
| 0.80 | 0.249 | 0.349 | 0.535 | 0.714 | 0.891 | 1.930 | 8.780  | 17.333 |        |
| 0.90 | 0.256 | 0.366 | 0.579 | 0.788 | 0.994 | 2.221 | 10.348 | 20.501 |        |

LAMBDA SEQUENCE :

| PROB | 0.50  | 1.00  | 2.00  | 3.00  | GAMMA | 4.00  | 10.00  | 50.00  | 100.00 |
|------|-------|-------|-------|-------|-------|-------|--------|--------|--------|
| 0.10 | 0.237 | 0.318 | 0.467 | 0.610 | 0.750 | 1.584 | 7.099  | 13.988 |        |
| 0.20 | 0.237 | 0.318 | 0.466 | 0.606 | 0.744 | 1.556 | 6.914  | 13.606 |        |
| 0.30 | 0.238 | 0.320 | 0.468 | 0.608 | 0.745 | 1.548 | 6.831  | 13.426 |        |
| 0.40 | 0.240 | 0.324 | 0.475 | 0.617 | 0.756 | 1.567 | 6.891  | 13.536 |        |
| 0.50 | 0.242 | 0.329 | 0.489 | 0.634 | 0.779 | 1.620 | 7.138  | 14.022 |        |
| 0.60 | 0.245 | 0.336 | 0.503 | 0.664 | 0.815 | 1.714 | 7.612  | 14.971 |        |
| 0.70 | 0.249 | 0.346 | 0.526 | 0.679 | 0.867 | 1.856 | 8.357  | 16.470 |        |
| 0.80 | 0.253 | 0.358 | 0.556 | 0.748 | 0.937 | 2.053 | 9.415  | 18.607 |        |
| 0.90 | 0.258 | 0.372 | 0.593 | 0.811 | 1.027 | 2.312 | 10.828 | 21.467 |        |

LAMBDA SEQUENCE :

| PROB | 0.50  | 1.00  | 2.00  | 3.00  | GAMMA | 4.00  | 10.00  | 50.00  | 100.00 |
|------|-------|-------|-------|-------|-------|-------|--------|--------|--------|
| 0.10 | 0.235 | 0.313 | 0.460 | 0.602 | 0.742 | 1.574 | 7.088  | 13.977 |        |
| 0.20 | 0.236 | 0.316 | 0.462 | 0.602 | 0.739 | 1.551 | 6.909  | 13.600 |        |
| 0.30 | 0.238 | 0.319 | 0.467 | 0.607 | 0.744 | 1.547 | 6.831  | 13.426 |        |
| 0.40 | 0.240 | 0.324 | 0.476 | 0.619 | 0.758 | 1.571 | 6.896  | 13.540 |        |
| 0.50 | 0.243 | 0.330 | 0.489 | 0.638 | 0.783 | 1.627 | 7.146  | 14.030 |        |
| 0.60 | 0.246 | 0.338 | 0.507 | 0.666 | 0.821 | 1.723 | 7.623  | 14.982 |        |
| 0.70 | 0.250 | 0.348 | 0.531 | 0.704 | 0.874 | 1.866 | 8.368  | 16.482 |        |
| 0.80 | 0.254 | 0.360 | 0.560 | 0.753 | 0.943 | 2.061 | 9.425  | 18.617 |        |
| 0.90 | 0.259 | 0.373 | 0.596 | 0.814 | 1.031 | 2.317 | 10.835 | 21.474 |        |

LAMBDA SEQUENCE :

| PROB | 0.50  | 1.00  | 2.00  | 3.00  | GAMMA | 4.00  | 10.00  | 50.00  | 100.00 |
|------|-------|-------|-------|-------|-------|-------|--------|--------|--------|
| 0.10 | 0.233 | 0.311 | 0.456 | 0.597 | 0.737 | 1.568 | 7.081  | 13.970 |        |
| 0.20 | 0.234 | 0.311 | 0.455 | 0.594 | 0.730 | 1.539 | 6.895  | 13.586 |        |
| 0.30 | 0.235 | 0.314 | 0.458 | 0.596 | 0.731 | 1.531 | 6.811  | 13.406 |        |
| 0.40 | 0.237 | 0.318 | 0.465 | 0.605 | 0.742 | 1.550 | 6.871  | 13.515 |        |
| 0.50 | 0.239 | 0.323 | 0.477 | 0.623 | 0.766 | 1.603 | 7.118  | 14.001 |        |
| 0.60 | 0.243 | 0.331 | 0.495 | 0.651 | 0.803 | 1.699 | 7.593  | 14.952 |        |
| 0.70 | 0.247 | 0.342 | 0.519 | 0.690 | 0.857 | 1.843 | 8.341  | 16.453 |        |
| 0.80 | 0.252 | 0.355 | 0.551 | 0.742 | 0.930 | 2.043 | 9.402  | 18.594 |        |
| 0.90 | 0.257 | 0.370 | 0.591 | 0.808 | 1.023 | 2.306 | 10.821 | 21.460 |        |

LAMBDA SEQUENCE : 1 1 1 1 1 1

| PROB | 0.50  | 1.00  | 2.00  | 3.00  | GAMMA | 4.00  | 10.00  | 50.00  | 100.00 |
|------|-------|-------|-------|-------|-------|-------|--------|--------|--------|
| 0.10 | 0.233 | 0.310 | 0.455 | 0.596 | 0.735 | 1.566 | 7.079  | 13.968 |        |
| 0.20 | 0.234 | 0.312 | 0.456 | 0.594 | 0.731 | 1.541 | 6.897  | 13.588 |        |
| 0.30 | 0.236 | 0.315 | 0.460 | 0.599 | 0.735 | 1.535 | 6.817  | 13.412 |        |
| 0.40 | 0.238 | 0.320 | 0.468 | 0.610 | 0.748 | 1.557 | 6.690  | 13.524 |        |
| 0.50 | 0.241 | 0.326 | 0.482 | 0.629 | 0.773 | 1.613 | 7.129  | 14.013 |        |
| 0.60 | 0.244 | 0.334 | 0.500 | 0.657 | 0.811 | 1.709 | 7.606  | 14.965 |        |
| 0.70 | 0.248 | 0.345 | 0.524 | 0.696 | 0.865 | 1.853 | 8.353  | 16.467 |        |
| 0.80 | 0.253 | 0.357 | 0.555 | 0.747 | 0.936 | 2.052 | 9.413  | 18.605 |        |
| 0.90 | 0.258 | 0.372 | 0.593 | 0.811 | 1.027 | 2.311 | 10.828 | 21.467 |        |

LAMBDA SEQUENCE : 1 2 0 1 0 2 1

| PROB | 0.50  | 1.00  | 2.00  | 3.00  | GAMMA | 4.00  | 10.00  | 50.00  | 100.00 |
|------|-------|-------|-------|-------|-------|-------|--------|--------|--------|
| 0.10 | 0.235 | 0.313 | 0.460 | 0.602 | 0.742 | 1.574 | 7.088  | 13.977 |        |
| 0.20 | 0.236 | 0.316 | 0.462 | 0.602 | 0.739 | 1.551 | 6.909  | 13.600 |        |
| 0.30 | 0.238 | 0.319 | 0.467 | 0.607 | 0.744 | 1.547 | 6.831  | 13.426 |        |
| 0.40 | 0.240 | 0.324 | 0.476 | 0.619 | 0.758 | 1.571 | 6.896  | 13.540 |        |
| 0.50 | 0.243 | 0.330 | 0.489 | 0.638 | 0.783 | 1.627 | 7.146  | 14.030 |        |
| 0.60 | 0.246 | 0.338 | 0.507 | 0.666 | 0.821 | 1.723 | 7.623  | 14.982 |        |
| 0.70 | 0.250 | 0.348 | 0.531 | 0.704 | 0.874 | 1.866 | 8.368  | 16.482 |        |
| 0.80 | 0.254 | 0.360 | 0.560 | 0.753 | 0.943 | 2.061 | 9.425  | 18.617 |        |
| 0.90 | 0.259 | 0.373 | 0.596 | 0.814 | 1.031 | 2.317 | 10.835 | 21.474 |        |

LAMBDA SEQUENCE : 2 0 1 0 2 1 1

| PROB | 0.50  | 1.00  | 2.00  | 3.00  | GAMMA | 4.00  | 10.00  | 50.00  | 100.00 |
|------|-------|-------|-------|-------|-------|-------|--------|--------|--------|
| 0.10 | 0.233 | 0.311 | 0.456 | 0.597 | 0.737 | 1.568 | 7.081  | 13.970 |        |
| 0.20 | 0.234 | 0.311 | 0.455 | 0.594 | 0.730 | 1.539 | 6.895  | 13.586 |        |
| 0.30 | 0.235 | 0.314 | 0.458 | 0.596 | 0.731 | 1.531 | 6.811  | 13.406 |        |
| 0.40 | 0.237 | 0.318 | 0.465 | 0.605 | 0.742 | 1.550 | 6.871  | 13.515 |        |
| 0.50 | 0.239 | 0.323 | 0.477 | 0.623 | 0.766 | 1.603 | 7.118  | 14.001 |        |
| 0.60 | 0.243 | 0.331 | 0.495 | 0.651 | 0.803 | 1.699 | 7.593  | 14.952 |        |
| 0.70 | 0.247 | 0.342 | 0.519 | 0.690 | 0.857 | 1.843 | 8.341  | 16.453 |        |
| 0.80 | 0.252 | 0.355 | 0.555 | 0.742 | 0.930 | 2.043 | 9.402  | 18.594 |        |
| 0.90 | 0.257 | 0.370 | 0.591 | 0.808 | 1.023 | 2.306 | 10.821 | 21.460 |        |

LAMBDA SEQUENCE :

|      | 2     | 1 | 0     | 0 | 1     | 2 | 1 |
|------|-------|---|-------|---|-------|---|---|
| PROB | 0.50  |   | 1.00  |   | 2.00  |   |   |
| 0.10 | 0.237 |   | 0.318 |   | 0.467 |   |   |
| 0.20 | 0.237 |   | 0.318 |   | 0.466 |   |   |
| 0.30 | 0.238 |   | 0.320 |   | 0.468 |   |   |
| 0.40 | 0.240 |   | 0.324 |   | 0.475 |   |   |
| 0.50 | 0.245 |   | 0.329 |   | 0.469 |   |   |
| 0.60 | 0.249 |   | 0.334 |   | 0.503 |   |   |
| 0.70 | 0.253 |   | 0.346 |   | 0.526 |   |   |
| 0.80 | 0.258 |   | 0.358 |   | 0.556 |   |   |
| 0.90 | 0.258 |   | 0.372 |   | 0.593 |   |   |

LAMBDA SEQUENCE :

|      | 0     | 2 | 2     | 2 | 0     | 0 | 2 |
|------|-------|---|-------|---|-------|---|---|
| PROB | 0.50  |   | 1.00  |   | 2.00  |   |   |
| 0.10 | 0.242 |   | 0.326 |   | 0.474 |   |   |
| 0.20 | 0.243 |   | 0.329 |   | 0.481 |   |   |
| 0.30 | 0.245 |   | 0.334 |   | 0.491 |   |   |
| 0.40 | 0.247 |   | 0.339 |   | 0.503 |   |   |
| 0.50 | 0.249 |   | 0.345 |   | 0.519 |   |   |
| 0.60 | 0.251 |   | 0.352 |   | 0.537 |   |   |
| 0.70 | 0.254 |   | 0.360 |   | 0.558 |   |   |
| 0.80 | 0.257 |   | 0.368 |   | 0.582 |   |   |
| 0.90 | 0.260 |   | 0.378 |   | 0.609 |   |   |

LAMBDA SEQUENCE :

|      | 1     | 1 | 2     | 1 | 1     | 0 | 2 |
|------|-------|---|-------|---|-------|---|---|
| PROB | 0.50  |   | 1.00  |   | 2.00  |   |   |
| 0.10 | 0.235 |   | 0.313 |   | 0.452 |   |   |
| 0.20 | 0.237 |   | 0.317 |   | 0.461 |   |   |
| 0.30 | 0.240 |   | 0.323 |   | 0.472 |   |   |
| 0.40 | 0.242 |   | 0.329 |   | 0.487 |   |   |
| 0.50 | 0.245 |   | 0.337 |   | 0.505 |   |   |
| 0.60 | 0.248 |   | 0.345 |   | 0.526 |   |   |
| 0.70 | 0.252 |   | 0.355 |   | 0.550 |   |   |
| 0.80 | 0.256 |   | 0.365 |   | 0.576 |   |   |
| 0.90 | 0.260 |   | 0.377 |   | 0.606 |   |   |

|      | 0     | 3 | 0     | 0 | 4     | 0 | 0 |
|------|-------|---|-------|---|-------|---|---|
| PROB | 0.50  |   | 1.00  |   | 2.00  |   |   |
| 0.10 | 0.237 |   | 0.318 |   | 0.467 |   |   |
| 0.20 | 0.237 |   | 0.318 |   | 0.466 |   |   |
| 0.30 | 0.238 |   | 0.320 |   | 0.468 |   |   |
| 0.40 | 0.240 |   | 0.324 |   | 0.475 |   |   |
| 0.50 | 0.245 |   | 0.329 |   | 0.469 |   |   |
| 0.60 | 0.249 |   | 0.334 |   | 0.503 |   |   |
| 0.70 | 0.253 |   | 0.346 |   | 0.526 |   |   |
| 0.80 | 0.258 |   | 0.358 |   | 0.556 |   |   |
| 0.90 | 0.258 |   | 0.372 |   | 0.593 |   |   |

## LAMBDA SEQUENCE :

|      | 1     | 2     | 1     | 0     | 1     | 2     | PROB   |
|------|-------|-------|-------|-------|-------|-------|--------|
| 0.10 | 0.237 | 0.315 | 0.455 | 0.587 | 0.716 | 1.471 | 6.429  |
| 0.20 | 0.239 | 0.320 | 0.466 | 0.602 | 0.735 | 1.504 | 6.538  |
| 0.30 | 0.242 | 0.327 | 0.479 | 0.622 | 0.760 | 1.562 | 6.792  |
| 0.40 | 0.244 | 0.334 | 0.495 | 0.646 | 0.793 | 1.643 | 7.191  |
| 0.50 | 0.247 | 0.341 | 0.513 | 0.675 | 0.833 | 1.749 | 7.736  |
| 0.60 | 0.250 | 0.350 | 0.534 | 0.709 | 0.880 | 1.879 | 8.426  |
| 0.70 | 0.254 | 0.358 | 0.556 | 0.747 | 0.934 | 2.033 | 9.261  |
| 0.80 | 0.257 | 0.368 | 0.581 | 0.790 | 0.995 | 2.211 | 10.242 |
| 0.90 | 0.260 | 0.378 | 0.609 | 0.837 | 1.063 | 2.413 | 11.368 |

## LAMBDA SEQUENCE :

|      | 2     | 0     | 2     | 0     | 2     | 0     | 2      | PROB   |
|------|-------|-------|-------|-------|-------|-------|--------|--------|
| 0.10 | 0.232 | 0.306 | 0.442 | 0.571 | 0.698 | 1.448 | 6.402  | 12.590 |
| 0.20 | 0.234 | 0.311 | 0.450 | 0.582 | 0.712 | 1.474 | 6.502  | 12.781 |
| 0.30 | 0.237 | 0.316 | 0.462 | 0.592 | 0.734 | 1.527 | 6.750  | 13.272 |
| 0.40 | 0.239 | 0.323 | 0.477 | 0.623 | 0.766 | 1.606 | 7.147  | 14.064 |
| 0.50 | 0.243 | 0.331 | 0.495 | 0.652 | 0.806 | 1.712 | 7.691  | 15.158 |
| 0.60 | 0.246 | 0.340 | 0.517 | 0.687 | 0.855 | 1.845 | 8.384  | 16.552 |
| 0.70 | 0.250 | 0.351 | 0.542 | 0.729 | 0.913 | 2.003 | 9.226  | 18.247 |
| 0.80 | 0.254 | 0.362 | 0.571 | 0.776 | 0.979 | 2.189 | 10.215 | 20.243 |
| 0.90 | 0.259 | 0.375 | 0.603 | 0.829 | 1.055 | 2.401 | 11.353 | 22.541 |

## LAMBDA SEQUENCE :

|      | 2     | 1     | 1     | 0     | 1     | 1     | 2      | PROB   |
|------|-------|-------|-------|-------|-------|-------|--------|--------|
| 0.10 | 0.235 | 0.313 | 0.452 | 0.583 | 0.712 | 1.465 | 6.422  | 12.610 |
| 0.20 | 0.237 | 0.317 | 0.461 | 0.595 | 0.727 | 1.493 | 6.525  | 12.804 |
| 0.30 | 0.240 | 0.323 | 0.472 | 0.613 | 0.750 | 1.547 | 6.725  | 13.297 |
| 0.40 | 0.242 | 0.329 | 0.487 | 0.634 | 0.781 | 1.627 | 7.172  | 14.090 |
| 0.50 | 0.245 | 0.337 | 0.505 | 0.665 | 0.821 | 1.732 | 7.716  | 15.182 |
| 0.60 | 0.248 | 0.345 | 0.524 | 0.699 | 0.868 | 1.863 | 8.406  | 16.574 |
| 0.70 | 0.252 | 0.355 | 0.550 | 0.738 | 0.924 | 2.019 | 9.244  | 18.266 |
| 0.80 | 0.256 | 0.365 | 0.576 | 0.783 | 0.987 | 2.200 | 10.229 | 20.257 |
| 0.90 | 0.260 | 0.377 | 0.606 | 0.833 | 1.059 | 2.407 | 11.360 | 22.548 |

## LAMBDA SEQUENCE :

|      | 2     | 2     | 0     | 0     | 2     | 2     |
|------|-------|-------|-------|-------|-------|-------|
| PROB | 0.50  | 1.00  | 2.00  | 3.00  | 4.00  | 10.00 |
| 0.10 | 0.242 | 0.326 | 0.474 | 0.610 | 0.742 | 1.503 |
| 0.20 | 0.243 | 0.329 | 0.481 | 0.621 | 0.755 | 1.530 |
| 0.30 | 0.245 | 0.334 | 0.491 | 0.636 | 0.776 | 1.581 |
| 0.40 | 0.247 | 0.339 | 0.503 | 0.657 | 0.804 | 1.657 |
| 0.50 | 0.249 | 0.345 | 0.519 | 0.682 | 0.841 | 1.759 |
| 0.60 | 0.251 | 0.352 | 0.537 | 0.713 | 0.885 | 1.885 |
| 0.70 | 0.254 | 0.360 | 0.558 | 0.749 | 0.937 | 2.036 |
| 0.80 | 0.257 | 0.368 | 0.582 | 0.791 | 0.976 | 2.212 |
| 0.90 | 0.260 | 0.378 | 0.609 | 0.837 | 1.064 | 2.413 |

## LAMBDA SEQUENCE :

|      | 1     | 2     | 2     | 1     | 0     | 0     | 3      |
|------|-------|-------|-------|-------|-------|-------|--------|
| PROB | 0.50  | 1.00  | 2.00  | 3.00  | 4.00  | 10.00 | 50.00  |
| 0.10 | 0.247 | 0.339 | 0.499 | 0.645 | 0.783 | 1.567 | 6.592  |
| 0.20 | 0.249 | 0.344 | 0.515 | 0.672 | 0.823 | 1.686 | 7.264  |
| 0.30 | 0.251 | 0.350 | 0.530 | 0.699 | 0.862 | 1.805 | 7.935  |
| 0.40 | 0.253 | 0.356 | 0.546 | 0.726 | 0.902 | 1.924 | 8.607  |
| 0.50 | 0.255 | 0.361 | 0.561 | 0.753 | 0.941 | 2.043 | 9.279  |
| 0.60 | 0.257 | 0.367 | 0.577 | 0.780 | 0.981 | 2.162 | 9.951  |
| 0.70 | 0.258 | 0.372 | 0.592 | 0.807 | 1.020 | 2.281 | 10.623 |
| 0.80 | 0.260 | 0.378 | 0.608 | 0.835 | 1.060 | 2.401 | 11.295 |
| 0.90 | 0.262 | 0.383 | 0.623 | 0.862 | 1.099 | 2.520 | 11.967 |

## LAMBDA SEQUENCE :

|      | 2     | 1     | 2     | 0     | 1     | 0     | 3      |
|------|-------|-------|-------|-------|-------|-------|--------|
| PROB | 0.50  | 1.00  | 2.00  | 3.00  | 4.00  | 10.00 | 50.00  |
| 0.10 | 0.240 | 0.324 | 0.471 | 0.608 | 0.740 | 1.507 | 6.518  |
| 0.20 | 0.243 | 0.331 | 0.490 | 0.639 | 0.784 | 1.633 | 7.198  |
| 0.30 | 0.246 | 0.338 | 0.508 | 0.670 | 0.829 | 1.758 | 7.878  |
| 0.40 | 0.248 | 0.345 | 0.527 | 0.702 | 0.873 | 1.884 | 8.558  |
| 0.50 | 0.251 | 0.353 | 0.546 | 0.733 | 0.917 | 2.010 | 9.238  |
| 0.60 | 0.253 | 0.360 | 0.564 | 0.764 | 0.962 | 2.136 | 9.919  |
| 0.70 | 0.256 | 0.367 | 0.583 | 0.795 | 1.006 | 2.262 | 10.599 |
| 0.80 | 0.259 | 0.374 | 0.602 | 0.826 | 1.050 | 2.387 | 11.279 |
| 0.90 | 0.261 | 0.382 | 0.620 | 0.858 | 1.095 | 2.513 | 11.959 |

LAMBDA SEQUENCE :

|      | 2     | 2 | 1     | 0     | 0     | 1     | 3      |
|------|-------|---|-------|-------|-------|-------|--------|
| PROB | 0.50  |   | 1.00  |       | 2.00  |       |        |
| 0.10 | 0.247 |   | 0.339 | 0.499 | 0.645 | 0.783 | 1.567  |
| 0.20 | 0.249 |   | 0.344 | 0.515 | 0.672 | 0.823 | 1.686  |
| 0.30 | 0.251 |   | 0.350 | 0.530 | 0.699 | 0.862 | 1.805  |
| 0.40 | 0.253 |   | 0.356 | 0.546 | 0.726 | 0.902 | 1.924  |
| 0.50 | 0.255 |   | 0.361 | 0.561 | 0.753 | 0.941 | 2.043  |
| 0.60 | 0.257 |   | 0.367 | 0.577 | 0.780 | 0.981 | 2.162  |
| 0.70 | 0.258 |   | 0.372 | 0.592 | 0.807 | 1.020 | 2.281  |
| 0.80 | 0.260 |   | 0.378 | 0.608 | 0.835 | 1.060 | 2.401  |
| 0.90 | 0.262 |   | 0.383 | 0.623 | 0.862 | 1.099 | 2.520  |
|      |       |   |       |       |       |       | 11.967 |
|      |       |   |       |       |       |       | 23.773 |
|      |       |   |       | GAMMA | 4.00  | 10.00 | 50.00  |
|      |       |   |       | 3.00  |       |       | 100.00 |

R = 4 SS = 17  
LAMBDA STAR : 3 1 3

LAMBDA SEQUENCE : 0 0 3 1 0 0

| PROB | 0.50  | 1.00  | 2.00  | 3.00  | GAMMA | 4.00  | 10.00  | 50.00  | 100.00 |
|------|-------|-------|-------|-------|-------|-------|--------|--------|--------|
| 0.10 | 0.243 | 0.328 | 0.482 | 0.628 | 0.769 | 1.598 | 7.045  | 13.844 |        |
| 0.20 | 0.241 | 0.324 | 0.473 | 0.613 | 0.750 | 1.543 | 6.743  | 13.231 |        |
| 0.30 | 0.240 | 0.322 | 0.468 | 0.605 | 0.737 | 1.502 | 6.504  | 12.743 |        |
| 0.40 | 0.240 | 0.322 | 0.468 | 0.603 | 0.733 | 1.485 | 6.375  | 12.471 |        |
| 0.50 | 0.241 | 0.324 | 0.473 | 0.610 | 0.742 | 1.500 | 6.417  | 12.543 |        |
| 0.60 | 0.243 | 0.330 | 0.485 | 0.629 | 0.767 | 1.562 | 6.710  | 13.124 |        |
| 0.70 | 0.246 | 0.338 | 0.506 | 0.662 | 0.814 | 1.687 | 7.354  | 14.417 |        |
| 0.80 | 0.251 | 0.351 | 0.537 | 0.714 | 0.887 | 1.893 | 8.465  | 16.660 |        |
| 0.90 | 0.257 | 0.367 | 0.580 | 0.788 | 0.993 | 2.202 | 10.176 | 20.130 |        |

LAMBDA SEQUENCE : 0 1 2 3 0 1 0

| PROB | 0.50  | 1.00  | 2.00  | 3.00  | GAMMA | 4.00  | 10.00  | 50.00  | 100.00 |
|------|-------|-------|-------|-------|-------|-------|--------|--------|--------|
| 0.10 | 0.236 | 0.315 | 0.462 | 0.603 | 0.742 | 1.564 | 7.007  | 13.806 |        |
| 0.20 | 0.236 | 0.315 | 0.458 | 0.595 | 0.729 | 1.518 | 6.755  | 13.203 |        |
| 0.30 | 0.237 | 0.316 | 0.458 | 0.592 | 0.723 | 1.486 | 6.486  | 12.724 |        |
| 0.40 | 0.238 | 0.316 | 0.462 | 0.596 | 0.725 | 1.476 | 6.365  | 12.461 |        |
| 0.50 | 0.240 | 0.323 | 0.471 | 0.608 | 0.740 | 1.498 | 6.415  | 12.542 |        |
| 0.60 | 0.243 | 0.330 | 0.486 | 0.630 | 0.769 | 1.566 | 6.716  | 13.130 |        |
| 0.70 | 0.247 | 0.340 | 0.509 | 0.666 | 0.819 | 1.695 | 7.765  | 14.428 |        |
| 0.80 | 0.251 | 0.353 | 0.541 | 0.719 | 0.893 | 1.902 | 8.477  | 16.673 |        |
| 0.90 | 0.257 | 0.369 | 0.583 | 0.792 | 0.998 | 2.209 | 10.185 | 20.139 |        |

LAMBDA SEQUENCE : 1 0 2 2 1 1 0

| PROB | 0.50  | 1.00  | 2.00  | 3.00  | GAMMA | 4.00  | 10.00  | 50.00  | 100.00 |
|------|-------|-------|-------|-------|-------|-------|--------|--------|--------|
| 0.10 | 0.232 | 0.308 | 0.450 | 0.589 | 0.727 | 1.546 | 6.987  | 13.786 |        |
| 0.20 | 0.232 | 0.307 | 0.446 | 0.581 | 0.713 | 1.498 | 6.691  | 13.179 |        |
| 0.30 | 0.233 | 0.308 | 0.446 | 0.577 | 0.706 | 1.464 | 6.460  | 12.698 |        |
| 0.40 | 0.235 | 0.312 | 0.450 | 0.581 | 0.709 | 1.453 | 6.359  | 12.434 |        |
| 0.50 | 0.237 | 0.317 | 0.460 | 0.593 | 0.723 | 1.476 | 6.388  | 12.515 |        |
| 0.60 | 0.240 | 0.325 | 0.476 | 0.617 | 0.754 | 1.545 | 6.690  | 13.104 |        |
| 0.70 | 0.245 | 0.335 | 0.500 | 0.655 | 0.806 | 1.676 | 7.342  | 14.404 |        |
| 0.80 | 0.250 | 0.349 | 0.534 | 0.711 | 0.885 | 1.887 | 8.458  | 16.654 |        |
| 0.90 | 0.256 | 0.367 | 0.580 | 0.787 | 0.992 | 2.200 | 10.174 | 20.128 |        |

LAMBDA SEQUENCE :

| PROB | 0.50  | 1.00  | 2.00  | 3.00  | GAMMA | 4.00  | 10.00  | 50.00  | 100.00 |
|------|-------|-------|-------|-------|-------|-------|--------|--------|--------|
| 0.10 | 0.231 | 0.306 | 0.448 | 0.586 | 0.724 | 1.543 | 6.983  | 13.781 |        |
| 0.20 | 0.232 | 0.307 | 0.446 | 0.580 | 0.712 | 1.497 | 6.691  | 13.179 |        |
| 0.30 | 0.233 | 0.309 | 0.447 | 0.579 | 0.708 | 1.467 | 6.464  | 12.702 |        |
| 0.40 | 0.235 | 0.313 | 0.453 | 0.585 | 0.713 | 1.460 | 6.347  | 12.442 |        |
| 0.50 | 0.238 | 0.319 | 0.464 | 0.599 | 0.730 | 1.486 | 6.401  | 12.527 |        |
| 0.60 | 0.242 | 0.328 | 0.481 | 0.624 | 0.763 | 1.557 | 6.706  | 13.120 |        |
| 0.70 | 0.246 | 0.338 | 0.506 | 0.663 | 0.815 | 1.689 | 7.359  | 14.421 |        |
| 0.80 | 0.251 | 0.352 | 0.539 | 0.717 | 0.891 | 1.899 | 8.474  | 16.670 |        |
| 0.90 | 0.257 | 0.369 | 0.583 | 0.792 | 0.997 | 2.208 | 10.184 | 20.139 |        |

LAMBDA SEQUENCE :

| PROB | 0.50  | 1.00  | 2.00  | 3.00  | GAMMA | 4.00  | 10.00  | 50.00  | 100.00 |
|------|-------|-------|-------|-------|-------|-------|--------|--------|--------|
| 0.10 | 0.232 | 0.308 | 0.450 | 0.589 | 0.727 | 1.546 | 6.987  | 13.786 |        |
| 0.20 | 0.232 | 0.307 | 0.446 | 0.581 | 0.713 | 1.498 | 6.691  | 13.179 |        |
| 0.30 | 0.233 | 0.308 | 0.446 | 0.577 | 0.706 | 1.464 | 6.460  | 12.698 |        |
| 0.40 | 0.235 | 0.312 | 0.450 | 0.581 | 0.709 | 1.453 | 6.339  | 12.434 |        |
| 0.50 | 0.237 | 0.316 | 0.460 | 0.593 | 0.723 | 1.476 | 6.388  | 12.514 |        |
| 0.60 | 0.240 | 0.325 | 0.476 | 0.617 | 0.754 | 1.545 | 6.690  | 13.104 |        |
| 0.70 | 0.245 | 0.335 | 0.500 | 0.655 | 0.806 | 1.676 | 7.342  | 14.404 |        |
| 0.80 | 0.250 | 0.349 | 0.534 | 0.711 | 0.883 | 1.887 | 8.458  | 16.654 |        |
| 0.90 | 0.256 | 0.367 | 0.580 | 0.787 | 0.992 | 2.200 | 10.174 | 20.128 |        |

LAMBDA SEQUENCE :

| PROB | 0.50  | 1.00  | 2.00  | 3.00  | GAMMA | 4.00  | 10.00  | 50.00  | 100.00 |
|------|-------|-------|-------|-------|-------|-------|--------|--------|--------|
| 0.10 | 0.236 | 0.315 | 0.462 | 0.603 | 0.742 | 1.564 | 7.007  | 13.806 |        |
| 0.20 | 0.236 | 0.315 | 0.458 | 0.595 | 0.729 | 1.518 | 6.715  | 13.203 |        |
| 0.30 | 0.237 | 0.316 | 0.458 | 0.592 | 0.723 | 1.486 | 6.486  | 12.724 |        |
| 0.40 | 0.238 | 0.318 | 0.462 | 0.596 | 0.725 | 1.476 | 6.365  | 12.461 |        |
| 0.50 | 0.240 | 0.323 | 0.471 | 0.608 | 0.740 | 1.498 | 6.415  | 12.542 |        |
| 0.60 | 0.243 | 0.330 | 0.486 | 0.630 | 0.769 | 1.566 | 6.716  | 13.130 |        |
| 0.70 | 0.247 | 0.340 | 0.509 | 0.666 | 0.819 | 1.695 | 7.365  | 14.428 |        |
| 0.80 | 0.251 | 0.353 | 0.541 | 0.719 | 0.893 | 1.902 | 8.477  | 16.653 |        |
| 0.90 | 0.257 | 0.369 | 0.583 | 0.792 | 0.998 | 2.209 | 10.185 | 20.139 |        |

LAMBDA SEQUENCE :

| PROB | 0.50  | 1.00  | 2.00  | 3.00  | 4.00  | 10.00 | 50.00  | 100.00 |
|------|-------|-------|-------|-------|-------|-------|--------|--------|
| 0.10 | 0.243 | 0.328 | 0.482 | 0.628 | 0.769 | 1.598 | 7.045  | 13.844 |
| 0.20 | 0.211 | 0.324 | 0.473 | 0.613 | 0.750 | 1.543 | 6.743  | 13.231 |
| 0.30 | 0.240 | 0.322 | 0.468 | 0.605 | 0.737 | 1.502 | 6.504  | 12.743 |
| 0.40 | 0.241 | 0.322 | 0.468 | 0.603 | 0.733 | 1.485 | 6.375  | 12.471 |
| 0.50 | 0.243 | 0.324 | 0.473 | 0.610 | 0.742 | 1.500 | 6.417  | 12.543 |
| 0.60 | 0.246 | 0.330 | 0.485 | 0.629 | 0.767 | 1.562 | 6.710  | 13.124 |
| 0.70 | 0.251 | 0.338 | 0.506 | 0.662 | 0.814 | 1.687 | 7.354  | 14.417 |
| 0.80 | 0.257 | 0.351 | 0.537 | 0.714 | 0.887 | 1.893 | 8.465  | 16.660 |
| 0.90 | 0.288 | 0.367 | 0.580 | 0.788 | 0.993 | 2.202 | 10.176 | 20.130 |

LAMBDA SEQUENCE :

| PROB | 0.50  | 1.00  | 2.00  | 3.00  | 4.00  | 10.00 | 50.00  | 100.00 |
|------|-------|-------|-------|-------|-------|-------|--------|--------|
| 0.10 | 0.245 | 0.332 | 0.485 | 0.624 | 0.757 | 1.511 | 6.374  | 12.431 |
| 0.20 | 0.244 | 0.331 | 0.482 | 0.619 | 0.750 | 1.490 | 6.243  | 12.160 |
| 0.30 | 0.244 | 0.331 | 0.483 | 0.620 | 0.751 | 1.489 | 6.215  | 12.095 |
| 0.40 | 0.245 | 0.333 | 0.488 | 0.628 | 0.762 | 1.515 | 6.334  | 12.328 |
| 0.50 | 0.246 | 0.337 | 0.498 | 0.644 | 0.784 | 1.576 | 6.645  | 12.951 |
| 0.60 | 0.248 | 0.343 | 0.513 | 0.670 | 0.820 | 1.677 | 7.193  | 14.057 |
| 0.70 | 0.251 | 0.351 | 0.534 | 0.705 | 0.872 | 1.828 | 8.021  | 15.736 |
| 0.80 | 0.255 | 0.361 | 0.561 | 0.753 | 0.940 | 2.033 | 9.175  | 18.082 |
| 0.90 | 0.259 | 0.374 | 0.596 | 0.814 | 1.029 | 2.301 | 10.700 | 21.185 |

LAMBDA SEQUENCE :

| PROB | 0.50  | 1.00  | 2.00  | 3.00  | 4.00  | 10.00 | 50.00  | 100.00 |
|------|-------|-------|-------|-------|-------|-------|--------|--------|
| 0.10 | 0.235 | 0.312 | 0.450 | 0.580 | 0.706 | 1.445 | 6.297  | 12.352 |
| 0.20 | 0.236 | 0.314 | 0.451 | 0.580 | 0.705 | 1.430 | 6.172  | 12.087 |
| 0.30 | 0.237 | 0.316 | 0.456 | 0.586 | 0.711 | 1.436 | 6.151  | 12.029 |
| 0.40 | 0.239 | 0.321 | 0.465 | 0.599 | 0.727 | 1.468 | 6.277  | 12.269 |
| 0.50 | 0.242 | 0.327 | 0.478 | 0.619 | 0.755 | 1.535 | 6.595  | 12.900 |
| 0.60 | 0.245 | 0.335 | 0.497 | 0.649 | 0.796 | 1.614 | 7.151  | 14.014 |
| 0.70 | 0.248 | 0.345 | 0.522 | 0.690 | 0.853 | 1.801 | 7.988  | 15.702 |
| 0.80 | 0.253 | 0.357 | 0.553 | 0.742 | 0.928 | 2.015 | 9.152  | 18.058 |
| 0.90 | 0.258 | 0.372 | 0.592 | 0.808 | 1.022 | 2.292 | 10.688 | 21.173 |

LAMBDA SEQUENCE : 1 1 2 2 0 1 1

| PROB | 0.50  | 1.00  | 2.00  | 3.00  | GAMMA | 4.00  | 10.00  | 50.00  | 100.00 |
|------|-------|-------|-------|-------|-------|-------|--------|--------|--------|
| 0.10 | 0.232 | 0.306 | 0.440 | 0.567 | 0.692 | 1.427 | 6.276  | 12.330 |        |
| 0.20 | 0.234 | 0.310 | 0.445 | 0.572 | 0.696 | 1.420 | 6.160  | 12.075 |        |
| 0.30 | 0.237 | 0.315 | 0.453 | 0.583 | 0.708 | 1.432 | 6.148  | 12.026 |        |
| 0.40 | 0.239 | 0.321 | 0.465 | 0.600 | 0.729 | 1.471 | 6.282  | 12.074 |        |
| 0.50 | 0.242 | 0.328 | 0.481 | 0.624 | 0.760 | 1.544 | 6.607  | 12.912 |        |
| 0.60 | 0.246 | 0.337 | 0.502 | 0.656 | 0.804 | 1.656 | 7.167  | 14.030 |        |
| 0.70 | 0.250 | 0.347 | 0.527 | 0.697 | 0.862 | 1.815 | 8.006  | 15.721 |        |
| 0.80 | 0.254 | 0.359 | 0.558 | 0.749 | 0.936 | 2.027 | 9.168  | 18.075 |        |
| 0.90 | 0.259 | 0.373 | 0.595 | 0.813 | 1.028 | 2.300 | 10.698 | 21.183 |        |

LAMBDA SEQUENCE : 2 0 2 1 1 1 1

| PROB | 0.50  | 1.00  | 2.00  | 3.00  | GAMMA | 4.00  | 10.00  | 50.00  | 100.00 |
|------|-------|-------|-------|-------|-------|-------|--------|--------|--------|
| 0.10 | 0.230 | 0.301 | 0.431 | 0.557 | 0.680 | 1.413 | 6.259  | 12.314 |        |
| 0.20 | 0.231 | 0.304 | 0.435 | 0.560 | 0.683 | 1.402 | 6.139  | 12.054 |        |
| 0.30 | 0.234 | 0.309 | 0.443 | 0.570 | 0.693 | 1.412 | 6.123  | 12.001 |        |
| 0.40 | 0.236 | 0.315 | 0.455 | 0.586 | 0.713 | 1.449 | 6.254  | 12.246 |        |
| 0.50 | 0.240 | 0.322 | 0.471 | 0.610 | 0.744 | 1.521 | 6.758  | 12.883 |        |
| 0.60 | 0.243 | 0.332 | 0.492 | 0.643 | 0.789 | 1.634 | 7.139  | 14.002 |        |
| 0.70 | 0.248 | 0.343 | 0.519 | 0.686 | 0.849 | 1.795 | 7.981  | 15.695 |        |
| 0.80 | 0.252 | 0.356 | 0.552 | 0.741 | 0.926 | 2.012 | 9.149  | 18.054 |        |
| 0.90 | 0.258 | 0.371 | 0.592 | 0.808 | 1.022 | 2.291 | 10.687 | 21.172 |        |

LAMBDA SEQUENCE : 2 1 1 0 2 1

| PROB | 0.50  | 1.00  | 2.00  | 3.00  | GAMMA | 4.00  | 10.00  | 50.00  | 100.00 |
|------|-------|-------|-------|-------|-------|-------|--------|--------|--------|
| 0.10 | 0.232 | 0.306 | 0.440 | 0.567 | 0.692 | 1.427 | 6.276  | 12.330 |        |
| 0.20 | 0.234 | 0.310 | 0.445 | 0.572 | 0.696 | 1.420 | 6.160  | 12.075 |        |
| 0.30 | 0.237 | 0.315 | 0.453 | 0.583 | 0.708 | 1.432 | 6.148  | 12.026 |        |
| 0.40 | 0.239 | 0.321 | 0.465 | 0.600 | 0.729 | 1.471 | 6.282  | 12.274 |        |
| 0.50 | 0.242 | 0.328 | 0.481 | 0.624 | 0.760 | 1.544 | 6.607  | 12.912 |        |
| 0.60 | 0.246 | 0.337 | 0.502 | 0.656 | 0.804 | 1.656 | 7.167  | 14.030 |        |
| 0.70 | 0.250 | 0.347 | 0.527 | 0.697 | 0.862 | 1.815 | 8.006  | 15.721 |        |
| 0.80 | 0.254 | 0.359 | 0.558 | 0.749 | 0.936 | 2.027 | 9.168  | 18.075 |        |
| 0.90 | 0.259 | 0.373 | 0.595 | 0.813 | 1.028 | 2.300 | 10.698 | 21.183 |        |

LAMBDA SEQUENCE : 3 0 1 0 1 2 1

| PROB | 0.50  | 1.00  | 2.00  | 3.00  | GAMMA | 4.00  | 10.00  | 50.00  | 100.00 |
|------|-------|-------|-------|-------|-------|-------|--------|--------|--------|
| 0.10 | 0.235 | 0.312 | 0.450 | 0.580 | 0.706 | 1.445 | 6.297  | 12.352 |        |
| 0.20 | 0.236 | 0.314 | 0.451 | 0.580 | 0.705 | 1.430 | 6.172  | 12.087 |        |
| 0.30 | 0.237 | 0.316 | 0.456 | 0.586 | 0.711 | 1.436 | 6.151  | 12.029 |        |
| 0.40 | 0.239 | 0.321 | 0.465 | 0.599 | 0.727 | 1.468 | 6.277  | 12.269 |        |
| 0.50 | 0.242 | 0.327 | 0.478 | 0.619 | 0.755 | 1.535 | 6.595  | 12.990 |        |
| 0.60 | 0.245 | 0.335 | 0.497 | 0.649 | 0.796 | 1.644 | 7.151  | 14.014 |        |
| 0.70 | 0.248 | 0.345 | 0.522 | 0.690 | 0.853 | 1.801 | 7.983  | 15.702 |        |
| 0.80 | 0.253 | 0.357 | 0.533 | 0.742 | 0.928 | 2.015 | 9.152  | 18.058 |        |
| 0.90 | 0.258 | 0.372 | 0.592 | 0.808 | 1.022 | 2.292 | 10.688 | 21.173 |        |

LAMBDA SEQUENCE : 3 1 0 0 0 3 1

| PROB | 0.50  | 1.00  | 2.00  | 3.00  | GAMMA | 4.00  | 10.00  | 50.00  | 100.00 |
|------|-------|-------|-------|-------|-------|-------|--------|--------|--------|
| 0.10 | 0.245 | 0.332 | 0.485 | 0.624 | 0.757 | 1.511 | 6.374  | 12.431 |        |
| 0.20 | 0.244 | 0.331 | 0.482 | 0.619 | 0.750 | 1.490 | 6.243  | 12.160 |        |
| 0.30 | 0.244 | 0.331 | 0.483 | 0.620 | 0.751 | 1.489 | 6.215  | 12.095 |        |
| 0.40 | 0.245 | 0.333 | 0.488 | 0.628 | 0.762 | 1.515 | 6.334  | 12.328 |        |
| 0.50 | 0.246 | 0.337 | 0.498 | 0.644 | 0.784 | 1.576 | 6.645  | 12.951 |        |
| 0.60 | 0.248 | 0.343 | 0.513 | 0.670 | 0.820 | 1.677 | 7.193  | 14.057 |        |
| 0.70 | 0.251 | 0.351 | 0.534 | 0.705 | 0.872 | 1.828 | 8.021  | 15.736 |        |
| 0.80 | 0.255 | 0.361 | 0.561 | 0.753 | 0.940 | 2.033 | 9.175  | 18.082 |        |
| 0.90 | 0.259 | 0.374 | 0.596 | 0.814 | 1.029 | 2.301 | 10.700 | 21.185 |        |

LAMBDA SEQUENCE : 1 1 3 2 0 0 2

| PROB | 0.50  | 1.00  | 2.00  | 3.00  | GAMMA | 4.00  | 10.00  | 50.00  | 100.00 |
|------|-------|-------|-------|-------|-------|-------|--------|--------|--------|
| 0.10 | 0.244 | 0.330 | 0.479 | 0.603 | 0.728 | 1.425 | 5.871  | 11.400 |        |
| 0.20 | 0.242 | 0.327 | 0.472 | 0.614 | 0.742 | 1.457 | 6.011  | 11.671 |        |
| 0.30 | 0.245 | 0.334 | 0.489 | 0.630 | 0.764 | 1.516 | 6.303  | 12.255 |        |
| 0.40 | 0.247 | 0.339 | 0.52  | 0.652 | 0.794 | 1.600 | 6.749  | 13.154 |        |
| 0.50 | 0.249 | 0.345 | 0.518 | 0.678 | 0.832 | 1.709 | 7.348  | 14.366 |        |
| 0.60 | 0.252 | 0.352 | 0.536 | 0.710 | 0.878 | 1.844 | 8.100  | 15.893 |        |
| 0.70 | 0.254 | 0.360 | 0.558 | 0.747 | 0.931 | 2.004 | 9.005  | 17.733 |        |
| 0.80 | 0.257 | 0.369 | 0.582 | 0.789 | 0.993 | 2.190 | 10.063 | 19.888 |        |
| 0.90 | 0.260 | 0.378 | 0.609 | 0.836 | 1.062 | 2.402 | 11.275 | 22.356 |        |

LAMBDA SEQUENCE : 2 0 3 1 1 0 2

|      | PROB  | 0.50  | 1.00  | 2.00  | 3.00  | 4.00  | 10.00  | 50.00  | 100.00 |
|------|-------|-------|-------|-------|-------|-------|--------|--------|--------|
| 0.10 | 0.234 | 0.308 | 0.438 | 0.559 | 0.676 | 1.355 | 5.786  | 11.312 |        |
| 0.20 | 0.236 | 0.313 | 0.449 | 0.575 | 0.696 | 1.393 | 5.932  | 11.589 |        |
| 0.30 | 0.239 | 0.320 | 0.463 | 0.595 | 0.723 | 1.458 | 6.232  | 12.181 |        |
| 0.40 | 0.242 | 0.327 | 0.479 | 0.621 | 0.758 | 1.548 | 6.685  | 13.088 |        |
| 0.50 | 0.245 | 0.335 | 0.499 | 0.652 | 0.801 | 1.665 | 7.293  | 14.309 |        |
| 0.60 | 0.248 | 0.344 | 0.521 | 0.689 | 0.853 | 1.808 | 8.054  | 15.846 |        |
| 0.70 | 0.251 | 0.354 | 0.546 | 0.731 | 0.912 | 1.976 | 8.970  | 17.697 |        |
| 0.80 | 0.255 | 0.365 | 0.574 | 0.778 | 0.980 | 2.171 | 10.039 | 19.863 |        |
| 0.90 | 0.260 | 0.376 | 0.605 | 0.831 | 1.055 | 2.392 | 11.262 | 22.343 |        |

LAMBDA SEQUENCE : 2 1 2 1 0 1 2

|      | PROB  | 0.50  | 1.00  | 2.00  | 3.00  | 4.00  | 10.00  | 50.00  | 100.00 |
|------|-------|-------|-------|-------|-------|-------|--------|--------|--------|
| 0.10 | 0.235 | 0.310 | 0.442 | 0.563 | 0.681 | 1.361 | 5.793  | 11.320 |        |
| 0.20 | 0.238 | 0.317 | 0.455 | 0.583 | 0.705 | 1.407 | 5.949  | 11.608 |        |
| 0.30 | 0.241 | 0.324 | 0.471 | 0.606 | 0.736 | 1.477 | 6.257  | 12.207 |        |
| 0.40 | 0.244 | 0.332 | 0.489 | 0.634 | 0.774 | 1.571 | 6.715  | 13.118 |        |
| 0.50 | 0.247 | 0.340 | 0.509 | 0.666 | 0.818 | 1.689 | 7.324  | 14.342 |        |
| 0.60 | 0.250 | 0.349 | 0.530 | 0.702 | 0.869 | 1.831 | 8.085  | 15.877 |        |
| 0.70 | 0.253 | 0.358 | 0.554 | 0.742 | 0.926 | 1.997 | 8.997  | 17.725 |        |
| 0.80 | 0.257 | 0.368 | 0.581 | 0.787 | 0.990 | 2.187 | 10.060 | 19.884 |        |
| 0.90 | 0.260 | 0.378 | 0.609 | 0.836 | 1.061 | 2.401 | 11.274 | 22.355 |        |

LAMBDA SEQUENCE : 3 0 2 0 1 1 2

|      | PROB  | 0.50  | 1.00  | 2.00  | 3.00  | 4.00  | 10.00  | 50.00  | 100.00 |
|------|-------|-------|-------|-------|-------|-------|--------|--------|--------|
| 0.10 | 0.234 | 0.313 | 0.438 | 0.559 | 0.676 | 1.355 | 5.786  | 11.312 |        |
| 0.20 | 0.236 | 0.313 | 0.449 | 0.575 | 0.696 | 1.393 | 5.932  | 11.589 |        |
| 0.30 | 0.239 | 0.320 | 0.463 | 0.595 | 0.723 | 1.458 | 6.232  | 12.181 |        |
| 0.40 | 0.242 | 0.327 | 0.479 | 0.621 | 0.758 | 1.548 | 6.685  | 13.088 |        |
| 0.50 | 0.245 | 0.335 | 0.499 | 0.652 | 0.801 | 1.665 | 7.293  | 14.309 |        |
| 0.60 | 0.248 | 0.344 | 0.521 | 0.689 | 0.853 | 1.808 | 8.054  | 15.846 |        |
| 0.70 | 0.252 | 0.354 | 0.546 | 0.731 | 0.912 | 1.976 | 8.970  | 17.697 |        |
| 0.80 | 0.255 | 0.365 | 0.574 | 0.778 | 0.980 | 2.171 | 10.039 | 19.863 |        |
| 0.90 | 0.260 | 0.376 | 0.605 | 0.831 | 1.055 | 2.392 | 11.262 | 22.343 |        |

## LAMBDA SEQUENCE :

|      | 3     | 1     | 1     | 0     | 0     | 2     | 2      |
|------|-------|-------|-------|-------|-------|-------|--------|
| PROB | 0.50  |       | 1.00  |       | 2.00  |       | 3.00   |
| 0.10 | 0.242 | 0.327 | 0.472 | 0.603 | 0.728 | 1.425 | 5.871  |
| 0.20 | 0.244 | 0.330 | 0.479 | 0.614 | 0.742 | 1.457 | 6.011  |
| 0.30 | 0.245 | 0.334 | 0.489 | 0.630 | 0.764 | 1.516 | 6.303  |
| 0.40 | 0.247 | 0.339 | 0.502 | 0.652 | 0.794 | 1.600 | 6.749  |
| 0.50 | 0.249 | 0.345 | 0.518 | 0.678 | 0.832 | 1.709 | 7.348  |
| 0.60 | 0.252 | 0.352 | 0.536 | 0.710 | 0.878 | 1.844 | 8.100  |
| 0.70 | 0.254 | 0.360 | 0.558 | 0.747 | 0.931 | 2.004 | 9.005  |
| 0.80 | 0.257 | 0.369 | 0.582 | 0.789 | 0.993 | 2.190 | 10.063 |
| 0.90 | 0.260 | 0.378 | 0.609 | 0.836 | 1.062 | 2.402 | 11.275 |

## LAMBDA SEQUENCE :

|      | 2     | 1     | 3     | 1     | 0     | 0     | 3      |
|------|-------|-------|-------|-------|-------|-------|--------|
| PROB | 0.50  |       | 1.00  |       | 2.00  |       | 3.00   |
| 0.10 | 0.247 | 0.339 | 0.498 | 0.641 | 0.775 | 1.515 | 6.155  |
| 0.20 | 0.249 | 0.345 | 0.514 | 0.668 | 0.815 | 1.640 | 6.876  |
| 0.30 | 0.251 | 0.350 | 0.529 | 0.696 | 0.856 | 1.764 | 7.596  |
| 0.40 | 0.253 | 0.356 | 0.545 | 0.724 | 0.896 | 1.889 | 8.316  |
| 0.50 | 0.255 | 0.361 | 0.561 | 0.751 | 0.937 | 2.014 | 9.037  |
| 0.60 | 0.257 | 0.367 | 0.576 | 0.779 | 0.977 | 2.139 | 9.757  |
| 0.70 | 0.258 | 0.372 | 0.592 | 0.806 | 1.018 | 2.264 | 10.478 |
| 0.80 | 0.260 | 0.378 | 0.608 | 0.834 | 1.058 | 2.389 | 11.198 |
| 0.90 | 0.262 | 0.383 | 0.623 | 0.861 | 1.098 | 2.514 | 11.918 |

|      | 3     | 0     | 3     | 0     | 1     | 0     | 3      |
|------|-------|-------|-------|-------|-------|-------|--------|
| PROB | 0.50  |       | 1.00  |       | 2.00  |       | 3.00   |
| 0.10 | 0.240 | 0.321 | 0.462 | 0.591 | 0.714 | 1.424 | 5.871  |
| 0.20 | 0.242 | 0.328 | 0.481 | 0.624 | 0.761 | 1.559 | 6.771  |
| 0.30 | 0.245 | 0.336 | 0.501 | 0.657 | 0.809 | 1.694 | 7.505  |
| 0.40 | 0.248 | 0.344 | 0.521 | 0.690 | 0.856 | 1.829 | 8.238  |
| 0.50 | 0.250 | 0.351 | 0.540 | 0.723 | 0.903 | 1.964 | 8.972  |
| 0.60 | 0.253 | 0.359 | 0.560 | 0.756 | 0.950 | 2.099 | 9.705  |
| 0.70 | 0.256 | 0.366 | 0.580 | 0.789 | 0.997 | 2.234 | 10.439 |
| 0.80 | 0.259 | 0.374 | 0.600 | 0.823 | 1.045 | 2.369 | 11.172 |
| 0.90 | 0.261 | 0.381 | 0.619 | 0.856 | 1.092 | 2.504 | 11.905 |

LAMBDA SEQUENCE :

|      | 3     | 1     | 2     | 0     | 0     | 1     | 3      |
|------|-------|-------|-------|-------|-------|-------|--------|
| PROB | 0.50  | 1.00  | 2.00  | 3.00  | 4.00  | 5.00  | 100.00 |
| 0.10 | 0.247 | 0.339 | 0.498 | 0.641 | 0.773 | 1.515 | 6.155  |
| 0.20 | 0.249 | 0.345 | 0.514 | 0.668 | 0.815 | 1.640 | 6.876  |
| 0.30 | 0.251 | 0.350 | 0.529 | 0.696 | 0.856 | 1.764 | 7.596  |
| 0.40 | 0.253 | 0.356 | 0.545 | 0.724 | 0.896 | 1.889 | 8.316  |
| 0.50 | 0.255 | 0.361 | 0.561 | 0.751 | 0.937 | 2.014 | 9.037  |
| 0.60 | 0.257 | 0.367 | 0.576 | 0.779 | 0.977 | 2.139 | 9.757  |
| 0.70 | 0.258 | 0.372 | 0.592 | 0.806 | 1.018 | 2.264 | 10.478 |
| 0.80 | 0.260 | 0.378 | 0.608 | 0.834 | 1.058 | 2.389 | 11.198 |
| 0.90 | 0.262 | 0.383 | 0.623 | 0.861 | 1.098 | 2.514 | 11.918 |

|      | 3     | 1     | 2     | 0     | 0     | 1     | 3      |
|------|-------|-------|-------|-------|-------|-------|--------|
| PROB | 0.50  | 1.00  | 2.00  | 3.00  | 4.00  | 5.00  | 100.00 |
| 0.10 | 0.247 | 0.339 | 0.498 | 0.641 | 0.773 | 1.515 | 6.155  |
| 0.20 | 0.249 | 0.345 | 0.514 | 0.668 | 0.815 | 1.640 | 6.876  |
| 0.30 | 0.251 | 0.350 | 0.529 | 0.696 | 0.856 | 1.764 | 7.596  |
| 0.40 | 0.253 | 0.356 | 0.545 | 0.724 | 0.896 | 1.889 | 8.316  |
| 0.50 | 0.255 | 0.361 | 0.561 | 0.751 | 0.937 | 2.014 | 9.037  |
| 0.60 | 0.257 | 0.367 | 0.576 | 0.779 | 0.977 | 2.139 | 9.757  |
| 0.70 | 0.258 | 0.372 | 0.592 | 0.806 | 1.018 | 2.264 | 10.478 |
| 0.80 | 0.260 | 0.378 | 0.608 | 0.834 | 1.058 | 2.389 | 11.198 |
| 0.90 | 0.262 | 0.383 | 0.623 | 0.861 | 1.098 | 2.514 | 11.918 |

$$R = 4 \quad \text{LAMBDA STAR} : 4 \quad 0 \quad 8$$

LAMBDA SEQUENCE : 0 0 4 4 0 0 0

| PROB | GAMMA |       |       |       |       | 100.00 |
|------|-------|-------|-------|-------|-------|--------|
|      | 1.00  | 2.00  | 3.00  | 4.00  | 10.00 |        |
| 0.50 | 0.375 | 0.607 | 0.839 | 1.070 | 2.457 | 11.696 |
|      | 0.364 | 0.581 | 0.796 | 1.010 | 2.296 | 10.856 |
|      | 0.356 | 0.559 | 0.760 | 0.961 | 2.159 | 10.132 |
|      | 0.350 | 0.543 | 0.734 | 0.923 | 2.052 | 9.553  |
|      | 0.346 | 0.534 | 0.718 | 0.900 | 1.983 | 9.165  |
|      | 0.347 | 0.533 | 0.715 | 0.895 | 1.961 | 9.025  |
|      | 0.351 | 0.541 | 0.727 | 0.911 | 1.999 | 9.207  |
|      | 0.359 | 0.560 | 0.758 | 0.933 | 2.113 | 9.799  |
|      | 0.371 | 0.592 | 0.810 | 1.027 | 2.319 | 10.904 |
| 0.10 | 0.259 | 0.375 | 0.607 | 0.839 | 2.457 | 11.696 |
|      | 0.254 | 0.364 | 0.581 | 0.796 | 2.296 | 10.856 |
|      | 0.251 | 0.356 | 0.559 | 0.760 | 2.159 | 10.132 |
|      | 0.249 | 0.350 | 0.543 | 0.734 | 2.052 | 9.553  |
|      | 0.248 | 0.346 | 0.534 | 0.718 | 1.983 | 9.165  |
|      | 0.248 | 0.347 | 0.533 | 0.715 | 1.961 | 9.025  |
|      | 0.250 | 0.351 | 0.541 | 0.727 | 1.999 | 9.207  |
|      | 0.253 | 0.359 | 0.560 | 0.758 | 2.113 | 9.799  |
|      | 0.258 | 0.371 | 0.592 | 0.810 | 2.319 | 10.904 |
| 0.20 | 0.259 | 0.375 | 0.607 | 0.839 | 2.457 | 11.696 |
|      | 0.254 | 0.364 | 0.581 | 0.796 | 2.296 | 10.856 |
|      | 0.251 | 0.356 | 0.559 | 0.760 | 2.159 | 10.132 |
|      | 0.249 | 0.350 | 0.543 | 0.734 | 2.052 | 9.553  |
|      | 0.248 | 0.346 | 0.534 | 0.718 | 1.983 | 9.165  |
|      | 0.248 | 0.347 | 0.533 | 0.715 | 1.961 | 9.025  |
|      | 0.250 | 0.351 | 0.541 | 0.727 | 1.999 | 9.207  |
|      | 0.253 | 0.359 | 0.560 | 0.758 | 2.113 | 9.799  |
|      | 0.258 | 0.371 | 0.592 | 0.810 | 2.319 | 10.904 |
| 0.30 | 0.259 | 0.375 | 0.607 | 0.839 | 2.457 | 11.696 |
|      | 0.254 | 0.364 | 0.581 | 0.796 | 2.296 | 10.856 |
|      | 0.251 | 0.356 | 0.559 | 0.760 | 2.159 | 10.132 |
|      | 0.249 | 0.350 | 0.543 | 0.734 | 2.052 | 9.553  |
|      | 0.248 | 0.346 | 0.534 | 0.718 | 1.983 | 9.165  |
|      | 0.248 | 0.347 | 0.533 | 0.715 | 1.961 | 9.025  |
|      | 0.250 | 0.351 | 0.541 | 0.727 | 1.999 | 9.207  |
|      | 0.253 | 0.359 | 0.560 | 0.758 | 2.113 | 9.799  |
|      | 0.258 | 0.371 | 0.592 | 0.810 | 2.319 | 10.904 |
| 0.40 | 0.259 | 0.375 | 0.607 | 0.839 | 2.457 | 11.696 |
|      | 0.254 | 0.364 | 0.581 | 0.796 | 2.296 | 10.856 |
|      | 0.251 | 0.356 | 0.559 | 0.760 | 2.159 | 10.132 |
|      | 0.249 | 0.350 | 0.543 | 0.734 | 2.052 | 9.553  |
|      | 0.248 | 0.346 | 0.534 | 0.718 | 1.983 | 9.165  |
|      | 0.248 | 0.347 | 0.533 | 0.715 | 1.961 | 9.025  |
|      | 0.250 | 0.351 | 0.541 | 0.727 | 1.999 | 9.207  |
|      | 0.253 | 0.359 | 0.560 | 0.758 | 2.113 | 9.799  |
|      | 0.258 | 0.371 | 0.592 | 0.810 | 2.319 | 10.904 |
| 0.50 | 0.259 | 0.375 | 0.607 | 0.839 | 2.457 | 11.696 |
|      | 0.254 | 0.364 | 0.581 | 0.796 | 2.296 | 10.856 |
|      | 0.251 | 0.356 | 0.559 | 0.760 | 2.159 | 10.132 |
|      | 0.249 | 0.350 | 0.543 | 0.734 | 2.052 | 9.553  |
|      | 0.248 | 0.346 | 0.534 | 0.718 | 1.983 | 9.165  |
|      | 0.248 | 0.347 | 0.533 | 0.715 | 1.961 | 9.025  |
|      | 0.250 | 0.351 | 0.541 | 0.727 | 1.999 | 9.207  |
|      | 0.253 | 0.359 | 0.560 | 0.758 | 2.113 | 9.799  |
|      | 0.258 | 0.371 | 0.592 | 0.810 | 2.319 | 10.904 |

LAMBDA SEQUENCE :: 1 0 3 3 0 1 0

| PROB  | 0.10  | 0.20  | 0.30  | 0.40  | 0.50  | 0.60  | 0.70  | 0.80  | 0.90  | 1.00  | 2.00  | 3.00  | 4.00  | 5.00  | 10.00 | 15.00 | 20.00 | 30.00 | 50.00 | 100.00 |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|
| 0.234 | 0.311 | 0.313 | 0.315 | 0.319 | 0.325 | 0.332 | 0.342 | 0.355 | 0.370 | 0.453 | 0.587 | 0.592 | 0.600 | 0.612 | 0.630 | 0.656 | 0.692 | 0.741 | 0.806 | 1.497  |
| 0.235 | 0.313 | 0.315 | 0.317 | 0.319 | 0.325 | 0.332 | 0.342 | 0.355 | 0.370 | 0.456 | 0.592 | 0.597 | 0.600 | 0.612 | 0.630 | 0.656 | 0.692 | 0.741 | 0.806 | 1.497  |
| 0.236 | 0.313 | 0.315 | 0.317 | 0.319 | 0.325 | 0.332 | 0.342 | 0.355 | 0.370 | 0.456 | 0.592 | 0.597 | 0.600 | 0.612 | 0.630 | 0.656 | 0.692 | 0.741 | 0.806 | 1.497  |
| 0.238 | 0.313 | 0.315 | 0.317 | 0.319 | 0.325 | 0.332 | 0.342 | 0.355 | 0.370 | 0.456 | 0.592 | 0.597 | 0.600 | 0.612 | 0.630 | 0.656 | 0.692 | 0.741 | 0.806 | 1.497  |
| 0.240 | 0.313 | 0.315 | 0.317 | 0.319 | 0.325 | 0.332 | 0.342 | 0.355 | 0.370 | 0.456 | 0.592 | 0.597 | 0.600 | 0.612 | 0.630 | 0.656 | 0.692 | 0.741 | 0.806 | 1.497  |
| 0.243 | 0.313 | 0.315 | 0.317 | 0.319 | 0.325 | 0.332 | 0.342 | 0.355 | 0.370 | 0.456 | 0.592 | 0.597 | 0.600 | 0.612 | 0.630 | 0.656 | 0.692 | 0.741 | 0.806 | 1.497  |
| 0.247 | 0.313 | 0.315 | 0.317 | 0.319 | 0.325 | 0.332 | 0.342 | 0.355 | 0.370 | 0.456 | 0.592 | 0.597 | 0.600 | 0.612 | 0.630 | 0.656 | 0.692 | 0.741 | 0.806 | 1.497  |
| 0.252 | 0.313 | 0.315 | 0.317 | 0.319 | 0.325 | 0.332 | 0.342 | 0.355 | 0.370 | 0.456 | 0.592 | 0.597 | 0.600 | 0.612 | 0.630 | 0.656 | 0.692 | 0.741 | 0.806 | 1.497  |
| 0.257 | 0.313 | 0.315 | 0.317 | 0.319 | 0.325 | 0.332 | 0.342 | 0.355 | 0.370 | 0.456 | 0.592 | 0.597 | 0.600 | 0.612 | 0.630 | 0.656 | 0.692 | 0.741 | 0.806 | 1.497  |

11 ANDRA SÉQUENCE : 3 0 2 3 0 2 0

## LAMBDA SEQUENCE :

|      | 3     | 0     | 1     | 1     | 0     | 3     | 0      |
|------|-------|-------|-------|-------|-------|-------|--------|
| PROB | 0.50  | 1.00  |       |       |       |       |        |
| 0.10 | 0.234 | 0.311 | 0.453 | 0.587 | 0.720 | 1.497 | 6.621  |
| 0.20 | 0.235 | 0.313 | 0.456 | 0.592 | 0.727 | 1.518 | 6.738  |
| 0.30 | 0.236 | 0.315 | 0.461 | 0.600 | 0.737 | 1.543 | 6.869  |
| 0.40 | 0.238 | 0.319 | 0.469 | 0.612 | 0.752 | 1.581 | 7.055  |
| 0.50 | 0.240 | 0.325 | 0.481 | 0.630 | 0.776 | 1.640 | 7.346  |
| 0.60 | 0.243 | 0.332 | 0.497 | 0.656 | 0.812 | 1.730 | 7.798  |
| 0.70 | 0.247 | 0.342 | 0.520 | 0.692 | 0.862 | 1.862 | 8.472  |
| 0.80 | 0.252 | 0.355 | 0.551 | 0.741 | 0.930 | 2.048 | 9.454  |
| 0.90 | 0.257 | 0.370 | 0.590 | 0.806 | 1.021 | 2.302 | 10.812 |

## LAMBDA SEQUENCE :

|      | 4     | 0     | 0     | 0     | 0     | 4     | 0      |
|------|-------|-------|-------|-------|-------|-------|--------|
| PROB | 0.50  | 1.00  |       |       |       |       |        |
| 0.10 | 0.259 | 0.375 | 0.607 | 0.839 | 1.070 | 2.457 | 11.696 |
| 0.20 | 0.254 | 0.364 | 0.581 | 0.796 | 1.010 | 2.296 | 10.856 |
| 0.30 | 0.251 | 0.356 | 0.559 | 0.760 | 0.961 | 2.159 | 10.132 |
| 0.40 | 0.249 | 0.350 | 0.543 | 0.734 | 0.923 | 2.052 | 9.553  |
| 0.50 | 0.248 | 0.346 | 0.534 | 0.718 | 0.900 | 1.983 | 9.152  |
| 0.60 | 0.248 | 0.347 | 0.533 | 0.715 | 0.895 | 1.961 | 9.025  |
| 0.70 | 0.250 | 0.351 | 0.541 | 0.727 | 0.911 | 1.999 | 9.207  |
| 0.80 | 0.253 | 0.359 | 0.560 | 0.758 | 0.953 | 2.113 | 9.799  |
| 0.90 | 0.258 | 0.371 | 0.592 | 0.810 | 1.027 | 2.319 | 10.734 |

## LAMBDA SEQUENCE :

|      | 1     | 3     | 4     | 3     | 0     | 0     | 1      |
|------|-------|-------|-------|-------|-------|-------|--------|
| PROB | 0.50  | 1.00  |       |       |       |       |        |
| 0.10 | 0.248 | 0.348 | 0.542 | 0.734 | 0.925 | 2.070 | 9.687  |
| 0.20 | 0.247 | 0.344 | 0.532 | 0.717 | 0.901 | 1.597 | 9.284  |
| 0.30 | 0.247 | 0.343 | 0.526 | 0.706 | 0.884 | 1.914 | 8.981  |
| 0.40 | 0.247 | 0.343 | 0.525 | 0.702 | 0.877 | 1.918 | 8.816  |
| 0.50 | 0.248 | 0.345 | 0.528 | 0.706 | 0.881 | 1.923 | 8.821  |
| 0.60 | 0.249 | 0.349 | 0.537 | 0.719 | 0.899 | 1.966 | 9.033  |
| 0.70 | 0.252 | 0.355 | 0.551 | 0.743 | 0.932 | 2.054 | 9.485  |
| 0.80 | 0.255 | 0.364 | 0.573 | 0.778 | 0.982 | 2.191 | 10.214 |
| 0.90 | 0.259 | 0.375 | 0.602 | 0.827 | 1.050 | 2.384 | 11.254 |

## LAMBDA SEQUENCE :

| 2 0 3 2 0 1 1 |       |       |       |       |       |       |
|---------------|-------|-------|-------|-------|-------|-------|
| PROB          | 0.50  | 1.00  | 2.00  | 3.00  | GAMMA | 4.00  |
| 0.10          | 0.231 | 0.302 | 0.430 | 0.551 | 0.669 | 1.367 |
| 0.20          | 0.233 | 0.307 | 0.440 | 0.567 | 0.690 | 1.417 |
| 0.30          | 0.236 | 0.314 | 0.454 | 0.587 | 0.717 | 1.481 |
| 0.40          | 0.239 | 0.321 | 0.470 | 0.611 | 0.749 | 1.563 |
| 0.50          | 0.242 | 0.329 | 0.488 | 0.641 | 0.790 | 1.666 |
| 0.60          | 0.246 | 0.338 | 0.511 | 0.676 | 0.838 | 1.745 |
| 0.70          | 0.250 | 0.349 | 0.536 | 0.718 | 0.897 | 1.827 |
| 0.80          | 0.254 | 0.361 | 0.566 | 0.767 | 0.965 | 1.907 |
| 0.90          | 0.259 | 0.374 | 0.600 | 0.824 | 1.046 | 2.190 |

## LAMBDA SEQUENCE :

| 3 0 2 1 0 2 1 |       |       |       |       |       |       |
|---------------|-------|-------|-------|-------|-------|-------|
| PROB          | 0.50  | 1.00  | 2.00  | 3.00  | GAMMA | 4.00  |
| 0.10          | 0.231 | 0.302 | 0.430 | 0.551 | 0.669 | 1.367 |
| 0.20          | 0.233 | 0.307 | 0.440 | 0.567 | 0.690 | 1.417 |
| 0.30          | 0.236 | 0.314 | 0.454 | 0.587 | 0.717 | 1.481 |
| 0.40          | 0.239 | 0.321 | 0.470 | 0.611 | 0.749 | 1.563 |
| 0.50          | 0.242 | 0.329 | 0.488 | 0.641 | 0.790 | 1.666 |
| 0.60          | 0.246 | 0.338 | 0.511 | 0.676 | 0.838 | 1.745 |
| 0.70          | 0.250 | 0.349 | 0.536 | 0.718 | 0.897 | 1.827 |
| 0.80          | 0.254 | 0.361 | 0.566 | 0.767 | 0.965 | 1.907 |
| 0.90          | 0.259 | 0.374 | 0.600 | 0.824 | 1.046 | 2.190 |

## LAMBDA SEQUENCE :

| 4 0 1 0 0 3 1 |       |       |       |       |       |       |
|---------------|-------|-------|-------|-------|-------|-------|
| PROB          | 0.50  | 1.00  | 2.00  | 3.00  | GAMMA | 4.00  |
| 0.10          | 0.248 | 0.348 | 0.542 | 0.734 | 0.925 | 2.070 |
| 0.20          | 0.247 | 0.344 | 0.532 | 0.717 | 0.901 | 1.997 |
| 0.30          | 0.247 | 0.343 | 0.526 | 0.706 | 0.884 | 1.944 |
| 0.40          | 0.247 | 0.343 | 0.525 | 0.702 | 0.877 | 1.918 |
| 0.50          | 0.248 | 0.345 | 0.528 | 0.706 | 0.881 | 1.923 |
| 0.60          | 0.249 | 0.349 | 0.537 | 0.719 | 0.899 | 1.966 |
| 0.70          | 0.252 | 0.355 | 0.551 | 0.743 | 0.912 | 2.054 |
| 0.80          | 0.255 | 0.364 | 0.573 | 0.778 | 0.982 | 2.191 |
| 0.90          | 0.259 | 0.375 | 0.602 | 0.827 | 1.050 | 2.384 |

## LAMBDA SEQUENCE :

|      |       |   |       |   |       |   |       |       |       |        |        |
|------|-------|---|-------|---|-------|---|-------|-------|-------|--------|--------|
|      | 2     | 0 | 4     | 2 | 0     | 0 | 2     |       |       |        |        |
| PROB | 0.50  |   | 1.00  |   | 2.00  |   |       | 3.00  | GAMMA | 4.00   | 10.00  |
| 0.10 | 0.244 |   | 0.335 |   | 0.508 |   | 0.676 | 0.842 | 1.827 | 8.359  | 16.520 |
| 0.20 | 0.245 |   | 0.338 |   | 0.511 |   | 0.679 | 0.845 | 1.827 | 8.327  | 16.447 |
| 0.30 | 0.246 |   | 0.341 |   | 0.517 |   | 0.688 | 0.856 | 1.849 | 8.422  | 16.631 |
| 0.40 | 0.248 |   | 0.345 |   | 0.526 |   | 0.701 | 0.874 | 1.894 | 8.644  | 17.073 |
| 0.50 | 0.250 |   | 0.350 |   | 0.538 |   | 0.720 | 0.899 | 1.962 | 8.992  | 17.773 |
| 0.60 | 0.252 |   | 0.355 |   | 0.552 |   | 0.743 | 0.932 | 2.052 | 9.468  |        |
| 0.70 | 0.255 |   | 0.362 |   | 0.570 |   | 0.772 | 0.973 | 2.165 | 10.070 | 19.946 |
| 0.80 | 0.257 |   | 0.370 |   | 0.590 |   | 0.806 | 1.021 | 2.301 | 10.800 | 21.419 |
| 0.90 | 0.261 |   | 0.379 |   | 0.613 |   | 0.845 | 1.076 | 2.458 | 11.656 | 23.150 |

## LAMBDA SEQUENCE :

|      |       |   |       |   |       |   |       |       |       |        |        |
|------|-------|---|-------|---|-------|---|-------|-------|-------|--------|--------|
|      | 3     | 0 | 3     | 1 | 0     | 1 | 2     |       |       |        |        |
| PROB | 0.50  |   | 1.00  |   | 2.00  |   |       | 3.00  | GAMMA | 4.00   | 10.00  |
| 0.10 | 0.234 |   | 0.307 |   | 0.435 |   | 0.553 | 0.667 | 1.334 | 5.710  | 11.171 |
| 0.20 | 0.237 |   | 0.315 |   | 0.453 |   | 0.582 | 0.707 | 1.437 | 6.234  | 12.220 |
| 0.30 | 0.241 |   | 0.324 |   | 0.473 |   | 0.613 | 0.750 | 1.551 | 6.819  | 13.395 |
| 0.40 | 0.244 |   | 0.332 |   | 0.493 |   | 0.646 | 0.796 | 1.675 | 7.466  | 14.696 |
| 0.50 | 0.247 |   | 0.341 |   | 0.515 |   | 0.682 | 0.846 | 1.810 | 8.175  | 16.122 |
| 0.60 | 0.250 |   | 0.350 |   | 0.538 |   | 0.719 | 0.898 | 1.955 | 8.941  | 17.674 |
| 0.70 | 0.254 |   | 0.359 |   | 0.561 |   | 0.759 | 0.954 | 2.110 | 9.776  | 19.352 |
| 0.80 | 0.257 |   | 0.369 |   | 0.586 |   | 0.800 | 1.012 | 2.276 | 10.669 | 21.155 |
| 0.90 | 0.260 |   | 0.379 |   | 0.612 |   | 0.843 | 1.074 | 2.452 | 11.627 | 23.084 |

## LAMBDA SEQUENCE :

|      |       |   |       |   |       |   |       |       |       |        |        |
|------|-------|---|-------|---|-------|---|-------|-------|-------|--------|--------|
|      | 4     | 0 | 2     | 0 | 0     | 2 | 2     |       |       |        |        |
| PROB | 0.50  |   | 1.00  |   | 2.00  |   |       | 3.00  | GAMMA | 4.00   | 10.00  |
| 0.10 | 0.244 |   | 0.335 |   | 0.508 |   | 0.676 | 0.842 | 1.827 | 8.359  | 16.520 |
| 0.20 | 0.245 |   | 0.338 |   | 0.511 |   | 0.679 | 0.845 | 1.827 | 8.327  | 16.447 |
| 0.30 | 0.246 |   | 0.341 |   | 0.517 |   | 0.688 | 0.856 | 1.849 | 8.422  | 16.631 |
| 0.40 | 0.248 |   | 0.345 |   | 0.526 |   | 0.701 | 0.874 | 1.894 | 8.644  | 17.073 |
| 0.50 | 0.250 |   | 0.350 |   | 0.538 |   | 0.720 | 0.899 | 1.962 | 8.992  | 17.773 |
| 0.60 | 0.252 |   | 0.355 |   | 0.552 |   | 0.743 | 0.932 | 2.052 | 9.468  | 18.730 |
| 0.70 | 0.255 |   | 0.362 |   | 0.570 |   | 0.772 | 0.973 | 2.165 | 10.070 | 19.946 |
| 0.80 | 0.257 |   | 0.370 |   | 0.590 |   | 0.806 | 1.021 | 2.301 | 10.800 | 21.419 |
| 0.90 | 0.261 |   | 0.379 |   | 0.613 |   | 0.845 | 1.076 | 2.458 | 11.656 | 23.150 |

LAMBDA SEQUENCE : 3 0 4 1 0 0 3

| PROR | 0.50  | 1.00  | 2.00  | 3.00  | GAMMA | 4.00  | 10.00  | 50.00  | 100.00 |  |  |  |
|------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--|--|--|
| 0.10 | 0.248 | 0.343 | 0.516 | 0.680 | 0.840 | 1.776 | 7.929  | 15.609 |        |  |  |  |
| 0.20 | 0.250 | 0.348 | 0.525 | 0.703 | 0.873 | 1.872 | 8.453  | 16.668 |        |  |  |  |
| 0.30 | 0.252 | 0.353 | 0.543 | 0.724 | 0.906 | 1.968 | 8.976  | 17.727 |        |  |  |  |
| 0.40 | 0.253 | 0.358 | 0.557 | 0.749 | 0.934 | 2.064 | 9.499  | 18.786 |        |  |  |  |
| 0.50 | 0.255 | 0.363 | 0.570 | 0.773 | 0.973 | 2.160 | 10.022 | 19.845 |        |  |  |  |
| 0.60 | 0.257 | 0.368 | 0.584 | 0.796 | 1.006 | 2.255 | 10.546 | 20.904 |        |  |  |  |
| 0.70 | 0.259 | 0.373 | 0.598 | 0.819 | 1.039 | 2.351 | 11.069 | 21.962 |        |  |  |  |
| 0.80 | 0.260 | 0.379 | 0.611 | 0.842 | 1.072 | 2.447 | 11.592 | 23.021 |        |  |  |  |
| 0.90 | 0.262 | 0.384 | 0.625 | 0.866 | 1.106 | 2.543 | 12.116 | 24.080 |        |  |  |  |

LAMBDA SEQUENCE : 4 0 3 0 0 1 3

| PROR | 0.50  | 1.00  | 2.00  | 3.00  | GAMMA | 4.00  | 10.00  | 50.00  | 100.00 |  |  |  |
|------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--|--|--|
| 0.10 | 0.248 | 0.343 | 0.516 | 0.680 | 0.840 | 1.776 | 7.929  | 15.609 |        |  |  |  |
| 0.20 | 0.250 | 0.348 | 0.529 | 0.703 | 0.873 | 1.872 | 8.453  | 16.668 |        |  |  |  |
| 0.30 | 0.252 | 0.353 | 0.543 | 0.726 | 0.906 | 1.968 | 8.976  | 17.727 |        |  |  |  |
| 0.40 | 0.253 | 0.358 | 0.557 | 0.749 | 0.939 | 2.064 | 9.499  | 18.786 |        |  |  |  |
| 0.50 | 0.255 | 0.363 | 0.570 | 0.773 | 0.973 | 2.160 | 10.022 | 19.845 |        |  |  |  |
| 0.60 | 0.257 | 0.368 | 0.584 | 0.796 | 1.006 | 2.255 | 10.546 | 20.904 |        |  |  |  |
| 0.70 | 0.259 | 0.373 | 0.598 | 0.819 | 1.039 | 2.351 | 11.069 | 21.962 |        |  |  |  |
| 0.80 | 0.260 | 0.379 | 0.611 | 0.842 | 1.072 | 2.447 | 11.592 | 23.021 |        |  |  |  |
| 0.90 | 0.262 | 0.384 | 0.625 | 0.866 | 1.106 | 2.543 | 12.116 | 24.080 |        |  |  |  |